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Newsprint Manufacturers More Optimistic

Basic Developments Greatly Improve Outlook for Future—Efforts By Newspaper Publishers to Place Contracts for Large Tonnages In 1936 Unsuccessful—Prospects for Increased Consumption Next Year Also Bright—Higher Prices Quoted In Australia and New Zealand for Future Contracts—Changes Name to Saguenay Power Co.

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., September 2, 1935—The optimism which has prevailed in the newsprint industry of late, consequent on what are regarded as basic developments improving the outlook, continues to strengthen the fact that efforts to place contracts for large tonnages in 1936 at current price levels have not been successful is the principal reason for encouragement, foreshadowing as it does a unity of purpose among leaders in the industry which have hitherto been lacking. The outlook for consumptive requirements is also bright.

It is beginning to be taken for granted that 1936 will see at least a beginning towards the much needed price increase. Constructive possibilities are also seen in current conversations between Canadian and European producers of newsprint, dealing with foreign markets, notably South America and the Antipodes, as well as the Orient. Reports reaching here from Australia and New Zealand state that higher prices have already been quoted there for future contracts. A firmer price tendency is also reported in South Africa and the Orient.

B. C. Mills Affected by Shipping Strike

Despatches from Vancouver state that shipping strikes, with embargoes placed on American ships loading in British Columbia has to some extent affected paper manufacturing. Powell River paper manufacturing port for the largest newsprint mill in British Columbia, has been declared "unfair" and it has an extensive trade with points in Washington, Oregon and California. As American lines have been carrying a large proportion of the Powell River cargoes to American points, despatching of these vessels has encountered difficulty, and two or three newsprint ships have been boycotted by labor organizations in California.

J. E. Hall, president of the Shipping Federation of British Columbia, which has organized a longshore body of its own to expedite handling of cargo at Vancouver, claims that the Maritime Federation of the Pacific Coast and the Longshore and Water Transport Workers of Canada, the organization which ordered and directed the B. C. strike, have no standing in legitimate labor or commercial circles, their main purpose being to create chaos and confusion in industry.

As a result of radical leadership, many of the Pacific Coast locals of the International Longshoremen's Association and other bodies which are affiliated with the American Federation of Labor have become involved in a new superorganization which has been set up during the past year. This particular organization has been working in harmony with the shippers and has disassociated itself from past associations with the left-wingers.

Duke-Price Changes Name

The Duke-Price Power Company, which has important connections with the newsprint industry in Quebec, has changed its name to Saguenay Power Company, according to an official notice appearing in the *Quebec Gazette*. The new name does not imply change in control, policies, etc.

The company was incorporated in 1924 and owned by the Quebec Development Company and now has an installed capacity of 495,000 h.p. at the head of the Saguenay River. Two years later a redistribution of the capital stock gave a controlling interest to the Aluminum Company of Canada, and a substantial interest to Shawinigan Water and Power Company, the remainder being held by Duke-Price private interests.

Pulpboard Products Incorporates

The Pulpboard Products, Inc. has recently been incorporated in Massachusetts, with a capital of $50,000.

The incorporators include employees of the old Androscroggin Pulp Company. Frederick A. Hosh, president, having been in the sales department for fifteen years, Helen M. Fraser, secretary, in the sales office seventeen years, and Willis Thompson, treasurer, having been with the old company for thirty years, fifteen years as mill manager with the mills at South Windham and Steep Falls, Maine, and the past fifteen years as sales manager and vice president.

The Pulpboard Products, Inc. has leased the entire concrete building on the corner of Prentiss and Mindoro Streets, Roxbury Crossing, Boston, equipped with cutters, etc., for the conversion of pulpboards. A large stock will be carried on hand for prompt deliveries. They will also act as mill agents for the higher grade of pulpboards. This company has taken over the Board Products Company which has been successfully manufacturing the Metaloc bottle case partitions for the beer and soft drink trade.

Beloit Secures Big Order from International

One Million Dollar Contract Reported Placed for Two New Paper Machines and Rebuilding of Thirty-One Others In I. P. Co.'s Plants—Beloit Factory Operating Practically At Capacity, With Approximately Five Hundred Workers Employed

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., September 3, 1935—Orders reputed to aggregate one million dollars have been placed with the Beloit Iron Works, Beloit, Wis., by the International Paper Company. Included in the Beloit order are two new paper machines, and the rebuilding of thirty-one others in International plants. As a result the Beloit plant is operating practically at capacity, with 500 men at work. This is about the 1929 employment figure, although the hours are shorter than in boom days.

Paper Chemistry Institute Enrolls Students

Sixteen first year students will start classes at the Institute of Paper Chemistry, Appleton, Wis., September 23. Those enrolled and the colleges and universities from which they come as graduates are: Earl Anderton, Massachusetts Institute of Technology; Raymond Baker, DePauw; Duncan Brown, Penn State; George Clarke, Minnesota; H. P. Dixson, Iowa State; Norman Elmore, Wabash; August Erspramer, Washington University, St. Louis; Fred Hanson, Penn State; Alfred Heald, Grinnell; Gerald Johnson, Illinois; Harold Kriekard, Kalamazoo College; A. Neubauer, Cornell; T. R. Probst, Penn State; Charles Richardson, Tufts; A. K. Roach, Lafayette; and Linton Simerl, Ohio State.

All of these students will go first to Gay, Michigan, where they will receive instruction at the logging camp of the Bonifas Lumber Company, a subsidiary of Kimberly-Clark Corporation. This is a new policy of the Institute. The students will be under direction of Robert F. Rogers, lecturer in wood technology. One day will be spent with a forester, another at CCC camps observing logging operations, and the remainder of the time observing the sealing and measuring of wood, cruising, studying the cost of wood from the stump to the car, the administration of the lumber camp, and general conservation policies.

Dr. Alan Glover and Dr. V. Drake, new research assistants, have arrived at the Institute to begin their new work. Most of the faculty members have returned from vacations, preparatory to reopening the Institute on September 9.

New Filter Plant for Flambeau

Construction of a new filter plant was begun last week by the Flambeau Paper Company, Park Falls, Wis., according to announcement of W. A. Munroe, president and general manager. The plant was purchased from the Permutit Company, of New York, and will provide a five million gallon daily capacity of filtered water. The work will be completed about October 1, and is part of an extensive program of improvements planned by the company so as to engage in the manufacture of finer grades of paper.

News of the Industry

Production of mimeograph paper by the Patten Paper Company, Ltd., Appleton, Wis., now aggregates 4,000 tons a year, according to Adam C. Remley, vice-president. Patten Mimeo Bond, because of its suitability to commercial use, he said, because of the development of papers which reproduce perfect copies, will take ink for the signature without blotting, and can be mimeographed on both sides without smear. The company's line includes six colors in addition to white. Production for the year probably will be the largest the Patten mill has produced.

Sale of the Tomahawk Pulp and Paper Company's dam at Tomahawk, Wis., to the Wisconsin Public Service Corporation for $8,000 has been approved by the Wisconsin Public Service Commission at Madison. M. H. Montross, division manager said the precarious condition of the dam will be remedied at once, with repairs now contemplated. The work will be limited to placing of the dam in safe condition. Later, when the head of water can be raised, the company intends to develop power, and hook the plant in with its hydro-electric system. The Tomahawk Pulp and Paper Company has been defunct for a number of years. Efforts are being made to sell the paper mill, but they have not met with success thus far.

Construction of a second floor addition to the Appleton Wire Works, Appleton, Wis., has been completed. The additional unit, 37 by 105 feet, is built of brick and will be used for warehouse purposes. The work was done by Greunke Brothers Construction Company.

Kimberly-Clark Corporation, Neenah, Wis., is planning to send two men, with all expenses paid, from each of its two mills having the best safety record, to the National Safety Congress in Louisville, Ky., October 14 to 19. The period on which the record will be based is from August 25 to September 30, inclusive. One man from each mill will represent the management, and the other the employees. The company's mill at Kimberly, Wis., had only one lost-time accident during the first six months of this year.

Fifteen salesmen of the Peerless Paper Company, Chicago jobbers, were guests of the Tuttle Press Company and the Appleton Coated Paper Company, Appleton, Wis., last week. They made a tour of the plants to learn first hand how the products are made which they are selling. The visitors were tendered a dinner at Conway Hotel, and a luncheon at Riverview Country Club, during their stay. They went from Appleton to Green Bay, Wis., for an inspection of mills there.

All road men and sales managers of the Nekoosa-Edwards Paper Company, Port Edwards and Nekoosa, Wis., spent two days last week in a sales conference at the company's offices. The meetings were in charge of Felix Pagenstecker, vice-president in charge of sales, and includes an inspection trip through the mills. The closing event was a dinner at Hotel Witter, Wisconsin Rapids, Wis., attended also by various department heads of the company.

Representatives of all mills of the Kimberly-Clark Corporation, including those at Niagara Falls, N. Y. and Niagara, Wis., as well as those of the Fox River Valley, gathered at the company's offices at Neenah, Wis. last week to attend the quarterly meeting of the mill council. There are 21 representatives of the management, and 21 of the employees. Regular business sessions were held to discuss company plans and policies.

Ernest Sederberg of Duluth, Minn., arrived at Ashland, Wis., last week to take over the management of the Newaygo Tug Lins, Inc., the shipping subsidiary of the Con-

solidated Water Power and Paper Company. He replaces Peter Krogen, who was transferred to the company's timber operations at Port Arthur, Ont.

Charles S. Boyd, president of the Appleton Coated Paper Company, and Judson G. Rosebush, president of Patten Paper Company, Ltd., both of Appleton, Wis., will assist in arranging the paper manufacturing exhibit which will be part of the Milwaukee and Wisconsin Exposition, to be held November 16 to 24 in the Auditorium at Milwaukee, Wis. Their appointment was announced by John L. Barchard, president of Hummel & Downing Company, Milwaukee, who is general chairman of the exposition.

Philip A. Streich and Miss Jean Lawson Moore, of Oshkosh, Wis., were married Saturday evening, Aug. 24, at Trinity Episcopal Church of that city. They left on an extended trip through the New England States and Canada, and will reside at Oshkosh after their return September 15. Mr. Streich is advertising manager of the Menasha Products Company Division of the Marathon Paper Mills Company at Menasha, Wis.

Willis R. Haase, salesman for the Bergstrom Paper Company, Neenah, Wis., and Miss Kathleen Freyschlag, of Kansas City, Mo., were married at the latter city last week. They are spending their honeymoon with relatives at Cleveland, Ohio.

Joseph H. Sweeney, who had been employed at the Biron, Wis. mill of the Consolidated Water Power and Paper Company ever since it was built, died last week after an illness since January. He had a record of never being late for work in forty years. Mr. Sweeney was 60 years old, and is survived by his widow and ten children, six of whom are employed by the Consolidated company.

Crown Zellerbach Make Good Report

The report of the Crown Zellerbach Corporation and subsidiaries, other than the Crown Willamette Paper Company and its subsidiaries, for the three months ended on July 31, shows a net profit of $502,019 after giving effect to all charges for depreciation, depletion, debenture interest and income taxes. This is equivalent to $2 a share on the 250,601 shares of preference stocks, Series A and B, outstanding. It compares with a net profit of $267,636, or $1.06 a share on the stock, in the same period of last year.

The Crown Willamette Paper Company and its subsidiaries, including Pacific Mills, Ltd., a Canadian subsidiary, reports a net profit of $497,928 for the three months ended July 31, subject to annual audit and year-end adjustments. This is after all charges for depreciation, depletion, bond interest and income taxes and after deducting minority stockholders' interests in the profits of Pacific Mills, Ltd., and is equivalent to $2.43 a share on the 200,000 shares of first preferred cumulative stock outstanding. It compares with a net profit of $459,846, or $2.29 a share on the stock, in the same period of last year.

I. C. C. Decides Against Wisconsin Mills

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., September 4, 1935—The Interstate Commerce Commission in the case of the Wisconsin Paper and Pulp Manufacturers' Traffic Association against the Ann Arbor Railroad Company has held that rates on printing paper, wrapping paper, and paper articles classified in the complaints, in carloads, from certain points in Wisconsin and Michigan to destinations in official territory are not unreasonable. **The complaints have been dismissed.**

Jno. H. Heald Co. Makes Improvements

[FROM OUR REGULAR CORRESPONDENT]

DAYTON, Ohio, September 3, 1935—An important improvement is being made by the Mead Corporation of Dayton and Chillicothe, Ohio, at the plant of the Jno. H. Heald Company, Lynchburg, Va., which the Corporation took over some time ago.

The Mead Corporation is installing a board machine in anticipation of the improved state of the paper trade and is investing something like $450,000 in the work. The machine should be in full running order within 30 days, it is stated, and will add materially to the output of the plant.

The company has two machines in operation on liner board, having made an addition to its buildings to accommodate the new installation and is making 15-point board. It is producing 9-point and corrugating, and will extend its operations most substantially.

The Mead Corporation has a number of mills throughout the country, probably the most extensive being at Chillicothe, to which city the corporation offices were removed from Dayton some time ago.

At Chillicothe, part of the mills have been running five days a week with marked regularity, while other parts are not operating at quite this rate of speed.

The plant is producing soda pulp and considerable raw stock for coated mills, and large quantities of wax paper.

The firm has always had a big run on magazine paper and supplies some of the largest publications in the United States, including the American Magazine and Colliers, the publication offices of which are in Springfield, Ohio, near Dayton, and the editorial offices in New York.

R. T. Houk, Sr., is in charge of the Dayton office of the Mead Corporation, as vice-president, having served in that capacity for a number of years. The other executives are in the Chillicothe offices.

George H. Mead, president of the Corporation, who is expected home this week from a European trip, maintains offices in both Dayton and Chillicothe, although he is out of the city much of his time. For more than a year he devoted a great deal of time to Government activities, in the interest of the paper trade and the consensus was that he performed a notable job.

He also has been in New York for an extended period in connection with the affairs of the Abitibi Company, of which he was one of the owners. Whether he will continue to direct affairs, at the request of the banking firms and the bondholders, could not be ascertained.

Mr. Mead, whose high place in the paper world is nationally recognized, is the son of a paper manufacturer and the grandson of the founder of the Mead Paper Company, which for many years conducted mills on Front street, Dayton. He was "brought up" in the atmosphere of the paper mill, passed through the various stations in mill production and management, and developed into one of the country's leading manufacturers.

The old Mead mills in Dayton have long been occupied by the International Envelope Corporation, which furnishes stamped envelopes and wrappings to the United States Government.

With Paper & Industrial Appliances Corp.

In announcing the new connection of George W. Dodge, recently assistant chief engineer for the International Paper Company, in a recent issue of the PAPER TRADE JOURNAL, the name of the firm with which he has become connected was incorrectly printed. Mr. Dodge is now chief engineer with the Paper and Industrial Appliances Corporation, 122 East 42nd street, New York, N. Y.

New England Paper Industry's Good Showing

Volume of Business Transacted Fairly Satisfactory, Despite Holiday Interlude—Steadiness Prevails In Both Fine and Coarse Paper Divisions—Fancy Papers In Persistent Request—Paper Stock Section Rather Listless

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., September 2, 1935—In common with many other industries generally in New England and throughout the country the local paper market continued to make a good showing during the last week, especially considering the time of year. Any falling off was ascribed to the holiday, but in some quarters it was stated that business was pretty fair in spite of the holiday. It was noted in the trade that the industry was "squaring off for a very good fall." Conditions, as a whole, were good in both the fine and wrapping paper divisions of the market. In the fancy paper market, exceedingly favorable reports were made.

The volume of sales of box board was fair, especially in material for shoe boxes, and there was considerable buying in small lots for purposes other than shoe cartons.

Paper stock was somewhat less active during the week, a period when most purchasing agents for the paper mills were away on vacations, but a big improvement is expected after Labor Day. In old papers, however, mixed papers, old newspapers and corrugated boxes moved fairly well. These grades are not so plentiful as they were and collections have not been so heavy of late. Old newspapers moved up to a flat .27½ from .25 @ .27½, but mixed papers and corrugated boxes remained at the same levels. In bagging, domestic gunny No. 1 advanced to 1.40 @ 1.50 from 1.35, scrap sisal declined a few points to 1.30 @ 1.35 from a previous flat 1.35, heavy baling bagging went up to 1.75 @ 2.00 from 1.75 @ 1.85, and paper mill bagging registered at 1.25, compared with a previous quotation of 1.20 @ 1.30. Under new domestic rags, blue overalls advanced to .04½ @ .04⅝ from .04. In old domestic rags, No. 2 roofing stock continued to advance, reaching 1.15 @ 1.20, against 1.05 @ 1.15 the week before. Foreign rags continued to move to a certain extent.

News of the Industry

Capt. William W. Jenks, a director of Stimpson & Co., Inc., and formerly president of that concern, recently underwent a minor operation at the Lynn Hospital, Lynn, Mass., and is to undergo a major operation. Capt. Jenks, who is 75 years old, is doing well.

The office of the St. Regis Paper Company, of which Kenneth L. Moses is New England district manager, has been removed to Room 314 from Room 336 in the Boston Chamber of Commerce Building, 80 Federal street.

Ralph F. Bass, Inc., Cambridge, Mass., has been incorporated to handle paper, paper bags, boxes, twine, Cellophane and rubber products. Capital stock is $25,000, 250 shares $100 each, and 250 shares having no par value. Ralph F. Bass, 169 Second street, Cambridge, is president and treasurer and Bessie F. Bass and Joseph Reeder are the other incorporators.

Agent for Colonial Bond and Ledger

The Riverside Papers Corporation, Appleton, Wis., has appointed the Baldwin Paper Company, Inc., 233-45 Spring street, New York agent for its Colonial Bond and Ledger in the metropolitan area.

New Patented Napkin Package

The Wortendyke Manufacturing Company, Richmond, Va., has just placed in the market a new patented feature package for napkins. Up until now the Napkins package served as a wrapper only until the napkins reached the consumer. When the package was opened it was rendered useless and discarded. The loose napkins had to be kept in a buffet drawer or some similar place. Every housewife knows the inconvenience of loose paper napkins. They are hard to handle, inconvenient, wasteful and untidy.

This new, patented dispenser box serves not only as packaging while on the dealer's shelf, but also, in the consumer's hands, it serves as a most convenient dispenser and container as long as one napkin remains. The napkins may be removed one or more at a time with the greatest facility. Napkins not used remain in the dispenser, neat and clean, ready for use when needed.

No longer need one be bothered with loose napkins blown around, soiled and wasted by breezes through the dining room window or across the picnic "spread." This dispenser type box is indeed ideal for picnic use as unused napkins remain in the Dispenser and can be brought back without inconvenience and in perfect condition. The dispenser box has a removable cellophane top which adds to its appeal.

The "Auburn" is made of heavyweight stock. It is a Napkin that will please and repeat. Packed 80 Napkins to Dispenser, 48 Dispensers to case. Shipping weight, 31 pounds.

Finnish Mills Organize for Selling

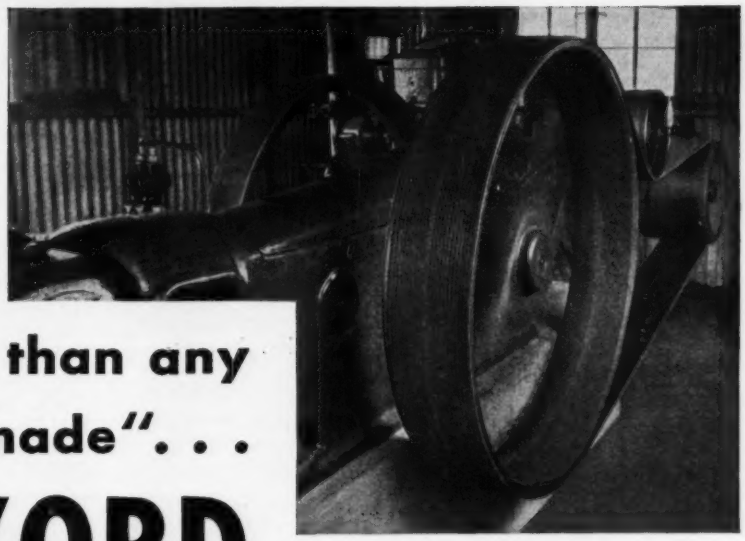
WASHINGTON, D. C., September 4, 1935—A joint selling organization has been established by the Finnish Paper Mill Association and the Kymmene Company, which will be in charge of the sales of Finnish newsprint and other printing paper in South and Central America, exclusive of Mexico, according to reports from E. I. Kapy, from the office of the American Consulate General, Helsingfors. The markets will be served by agents of the Association and the Company located in various European countries, except in the case of Argentina, where a special agent has been appointed. By this arrangement the new organization will be the sole distributors of newsprint and other printing papers for all paper mills controlled by the Association or the Kymmene Company.

Material Handling Equipment

How to efficiently move, and stack, or store practically every article manufactured, handled, or warehoused is graphically illustrated in a new colored folder, No. 311, just issued by Lewis-Shepard Company, material handling equipment engineers, Watertown, Mass.

This new free piece of literature probably shows more pictures than one has ever seen before on a sheet of the same size and is virtually a quick and valuable lesson in industrial efficiency so far as handling of materials is concerned. Many new materials handling methods are illustrated.

Gilmer BELTS



This endless Kable Kord operates on an idler drive in the Air Lift Plant of the Snowden Oil Company, Kilgore, Texas.

. . . "more pull per square-inch than any other flat belt made". . .

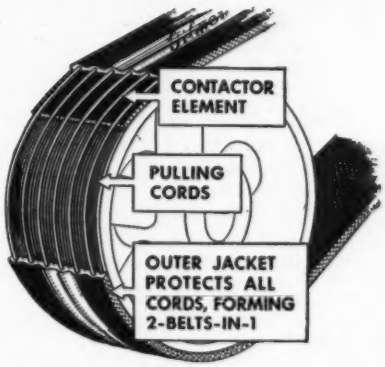
KABLE KORD

Kable Kord doesn't merely stay on flat pulleys . . . it *grips* them . . . hugs them snugly.

Kable Kord is "two-belts-in-one". Its lower section, made up of pulling cords, transmits the load. The upper Kable Kords, acting as a "contactor", squeeze the pulling cords securely to the pulley. This principle gives Kable Kord, on flat pulleys for group drives, or short centers and pivoted motor bases, *more pull per square-inch than any other flat belt made.*

It will be to your advantage to learn more about Kable Kord. When the Gilmer Engineer calls, give him a few minutes of your time. Today, write for the Kable Kord Data Book. It's free.

L. H. GILMER CO., Tacony, Philadelphia



KABLE KORD'S ADVANTAGES

1. Made endless and in rolls
2. Increases production
3. Reduces slipping
4. Has minimum stretch
5. Is more flexible
6. Has inherent ruggedness
7. Has more pull per square-inch
8. Wears longer
9. Requires no belt dressing

OIL-RESISTANT RUBBER BELTS

Through an exclusive process, Gilmer is now equipped to supply both V-belts and Kable Kord belts in a type that is effectively resistant to oil. If you have belting trouble due to a bad oil condition, it will pay you to write us for the facts about Gilmer Oil-Resistant Rubber Belts.

Manufacturers OF COMPLETE LINE OF POWER BELTING

V-belts · Kable Kord Roll and Endless Flat Belting · Planer Belts · Speedage Endless Fabric Belts · Cone Belts
Roving Frame Belts · Moulded Rubber Belts · Winder Belts · Spinner Belts · Refrigerator and Washing Machine Belts
Conveyor Belts · Round Roll and Endless Fabric Belting · Endless Belting · Endless Cotton Belts · Laundry Feed Ribbons

SPECIALISTS IN QUALITY BELTS SINCE 1903

Paper Business Improves in Philadelphia

Volume of Sales Transacted and Inquiries Received More Numerous—Demand for Various Standard Grades of Fine Paper Generally Well Sustained—Distributors of Kraft Wrapping Paper Report Satisfactory Firmness

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., September 2, 1935—Business in the paper industry in the Philadelphia area continues to improve. A decided paucity of news, except for reports of increasing volume and inquiries, indicates that the market is assuming a working program in connection with business generally. Fine papers are holding their own, and local distributors in the kraft market report a satisfactory firmness.

Oddities of the Envelope Industry

The oddities of the envelope industry were pointed out this week in an interview with Ephraim Foster, president, treasurer and general manager of the International Envelope Company, Palmer and Hope streets, who manufactures envelopes from one inch square to three by five feet. "Summer humidity in Philadelphia is a serious matter with us," Mr. Foster pointed out. The gum on the flaps dries slowly and poorly, so that extra time and care are needed in the manufacture of envelopes and extra heat must be provided. Envelopes dry best on clear, cold days.

"Few of those who lick envelopes preparatory to sealing them know that we must use a glue made of tapioca, in order to conform with the pure food laws. And fewer probably realize that this glue is occasionally flavored with wintergreen, peppermint or even oil of clove to give it a better taste. This little frill, however, is provided only on the more expensive merchandise."

Mr. Foster stated that his firm manufactures commercial envelopes, window, catalog and wedding envelopes and that they make a specialty of greeting card envelopes, and pointed out that the lined envelope fell off badly with the depression because of its cost, and is only beginning to come back to popularity. This is the envelope with the fancy paper inner lining, which is used for many greeting cards. Because it has been the specialty of his firm, the improvement in conditions has been twice blessed by Mr. Foster, and James J. O'Neill, secretary, vice president and sales manager of the company.

Before the depression, continued Mr. Foster, dealers used to order greeting card envelopes as much as a year in advance. When times got bad and business men more cautious this period was cut down so that now Christmas card envelopes, for instance, are ordered only five or six months in advance. To a manufacturer, of course, the more time he can have the better, because he can even out his production all around the calendar and work a force at a steady pace.

Said Mr. Foster, "We are coming out of the depression quite definitely now. While business has not been so much larger than in recent years, it has been far more staple than for a long time and that is important to a manufacturer."

The International Envelope Company, which has been established for fifteen years, markets its products over the eastern half of the United States, as far west as St. Louis and as far south as Atlanta. Some of the firm's machines can manufacture as many as 7,000 envelopes in standard sizes per hour.

Notes and Jottings

A new departure in advertising its products became apparent this past week when the Hammermill Paper Company at Erie was visited by two commentators who are headliners for the Columbia Broadcasting System. While company officials would not comment, the indications appear to be that the Broadcasting System is attempting to sell the Hammermill Company a program for fall and winter months. The appearance of Ted Husing was thought to be in connection with sponsoring of the leading college football games for the fall, and Boake Carter on the idea of a sponsored news comment on national and international affairs.

In a recent letter to Joseph Weaver, vice president of the Garrett-Buchanan Company, from Morgan H. Thomas, president of the company, it was learned that Mr. Thomas has been playing quite a bit of golf at the Hermitage Golf Club in Dublin, and Malone Golf Club in Belfast, Ireland. Mr. Morgan who is vacationing in Europe, is due back in the States about September 6.

American Engineering Co. Catalog

A pump is a machine or "apparatus," to quote the dictionary, for "raising, driving, exhausting or compressing fluids" and there are hundreds of "pumps" on the market which do just that. The Hele-Shaw pump, on the other hand, belongs to a special class designed to furnish high pressure energy which can be translated into variable, reversible linear motion through a ram or variable reversible rotary motion through a hydraulic motor. To overcome the disadvantages of traditional nomenclature was one of the problems which the American Engineering Company of Philadelphia had to face in preparing a new catalog for their Hele-Shaw Pumps, Motors and Transmissions. They solved it by creating the term Hele-Shaw Fluid Power to differentiate the Hele-Shaw pump from a legion of pumps with which it has little in common.

As Fluid Power, hydraulic power loses some of its mystery and becomes understandable—especially when, as in this catalog, its resemblance to electric power is carefully drawn. It dawns on one that the use of Fluid Power is not restricted to hydraulic presses but is capable of spreading to a host of new applications in need of a flexible, controllable source of energy.

The operation of the Hele-Shaw Pump has been reduced to simple diagrams and copy, probably the first lucid record of the behavior of a pump of this type on suction and discharge strokes and the effect produced by "stroking."

The Hele-Shaw catalog is 44 pages and contains over a hundred illustrations, charts, tables, drawings and engineering data indicating the construction, operation, application and specifications of Hele-Shaw pumps, motors, transmissions, regulators, pumping units, differential valves and pipe testing machines. Copies are available on request to engineering, designing and manufacturing executives.

One installation picture shows the application of the Hele-Shaw Transmission to a paper winder at the Castanew Paper Company, Lock Haven, Pa.

Karl Compton TAPPI Convention Speaker

The principal speaker at the banquet of the Technical Association of the Pulp and Paper Industry at the Ambassador Hotel, Atlantic City, N. J. Sept. 20, 1935 will be Dr. Karl T. Compton, President of the Massachusetts Institute of Technology.

G. E. Landt of the Continental-Diamond Fibre Company will preside at the banquet and short talks will be given by President Clark C. Heritage of the Technical Association and Harvey P. Cannon, Chairman of the Delaware Valley Section.

Philadelphia and Wilmington Program

Many members are planning to stay at the Pennsylvania Hotel, Philadelphia, Tuesday evening, September 17th and visit the Franklin Memorial and Fels Planetarium.

On Wednesday the official trip will be to the Hercules Powder Company plant and laboratories in Wilmington. A special train will take members from Philadelphia. All Wednesday trips start from the Hotel Pennsylvania. Special arrangements can be made to visit paper mills and other plants such as those of Du Pont, Pusey & Jones, Curtis Publishing, Cuneo Press, Krebs Pigment, etc. Those interested in taking any trip on Wednesday should at once notify C. M. Connor, Glassine Paper Company, Conshohocken, Pa.

The ladies will be taken on sightseeing trips to the Philadelphia parks and historical places on Wednesday.

Trains for Atlantic City will leave North Philadelphia at 4:45 p.m. Wednesday and will arrive at 6:00 p.m. in time for a buffet supper and a gala evening of entertainment planned to enable all to become well acquainted.

Meeting Chairmen Appointed

Chairmen for the regular meetings during the convention are as follows: Thursday—G. E. Landt, Continental Diamond Fibre Company; Friday—H. C. Schwalbe, Dill & Collins Inc.; Saturday—J. d'A. Clark, Scott Paper Company.

Luncheon Progress

H. P. Carruth, President, Dill & Collins, Inc., will be the speaker at the Thursday luncheon. He will be presented by W. M. Shoemaker, Secretary of the National Vulcanized Fibre Company.

On Friday Roger J. Egan of Bulkley, Dunton & Co., Chicago, Ill., will show moving pictures of logging operations in the Pacific Northwest, the South, Canada, Newfoundland and Sweden.

F. J. Sensenbrenner, President of the American Paper and Pulp Association, will speak at the Saturday luncheon and will be presented by W. R. Maull, General Chairman of the TAPPI 1935 Fall Meeting.

Low Railroad Rates

Those going to the meeting by rail will be able to obtain return transportation at but one third of the full rate. A TAPPI meeting certificate must be obtained when purchasing tickets.

Social Activities

On Thursday evening there will be a Gay Nineties Party during which the Delaware Valley Section Little Theatre Troup will present a drama. Dancing will follow.

Thursday afternoon will be devoted to golf and Friday to Section Softball Competition.

McDowell Paper Mills

Although no special plans are being made to visit the paper mills in and near Philadelphia, many of them will keep open-house. The following notes on one of the oldest paper mills in the United States are of interest. Mr. McDowell will be glad to welcome any member of TAPPI that may wish to visit his mill.

Joseph McDowell founded the McDowell Paper Mills at Manayunk, Pa. He was born in 1791 and learned the trade of paper making at New London Cross Roads, Chester County, Pa.

It is not known how early after his apprenticeship he began the manufacture of paper, but the family has in its possession a business card showing that in 1825 he had a store at 25 High street and was a paper manufacturer. He also sold paper, stationery, etc. This fact is recorded

CHARLES MCDOWELL

in the 1825 issue of Stranger's Philadelphia Directory at the Historical Society. Some of the old trade marks and labels which were on the bundles are still in the Historical Society's records.

On July 5, 1827 he acquired a property at Manayunk, Philadelphia and installed a paper machine. This was known as the Schuylkill Paper Mills. In 1830 he purchased the handmade-paper mill on Paper Mill Road on the Pennypack Creek, Montgomery County, near Beth Ayres, making bond, ledger, writing, book and other grades. This mill was built in 1794 and started in 1801 by John Longstreth, was burned down and threw all the inhabitants out of employment which was a big loss to the neighborhood. It was then rebuilt by him in 1809 and Joseph McDowell had been operating and selling its output for some years previous to purchasing it. It afterwards became one of the largest hand-made-paper mills of its time. Both of these mills were making hand-made papers, bond, ledger, etc. after which fourdriniers and beaters were installed at Manayunk by a man named Gavit who built most of the machinery.

In 1858 the mill on the Pennypack burned down so all his efforts were then concentrated on the mill at Manayunk. In November, 1864 George McDowell his son, took over the business because of his father's advanced years.

On January 8, 1870, Joseph McDowell died and the business was continued by his son George.

On January 26, 1884 the business was taken over by F. W. McDowell another son of Joseph McDowell who was with Jessup & Moore Paper Company. In 1888 Charles McDowell was taken into partnership with his father and as the mills were known all over the country and among the paper trade as McDowell Mills, the name was changed to McDowell Paper Mills, F. W. and Charles McDowell being the owners.

At this time Charles McDowell was connected with Jessup & Moore Paper Company Philadelphia and Wilmington, with his father, who had been General Manager nearly all his life and at the death of his father, he then also took entire charge of the McDowell Paper Mills. Lukes were also connected with the Jessup & Moore Paper Company and left at the same time, building up the West Virginia Pulp and Paper Company.

On May 15,.1907, Francis W. McDowell died and the business was continued by Charles McDowell, the present owner, who is still operating it in 1935, thereby making a continuation of three generations of actual paper makers since 1825, manufacturing and handling paper products for over 110 years.

Charles McDowell has increased the plant ever since, and formerly made bond, writing, book, jute, rope, wrapping papers and other specialties. Business continued until 1910 when he erected another mill adjoining this, taking in considerable ground and putting in 114 inch modern fourdrinier, beaters, and extra machinery which with the 86 inch machine, gave a very large output of paper, from 30,000 to 40,000 pounds a day.

The mill has steadily increased in its production and now covers 2½ acres. In 1912 it started to manufacture glassine, greaseproof and other high class specialties. The mill is up to date in every respect and in a position to make many grades of paper at quick notice, being built especially for the above mentioned papers. Some paper is exported. Power is obtained from a canal, up to date boilers and a steam turbine.

Charles McDowell was one of the earliest members of the Technical Association of the Pulp and Paper Industry and has attended most of the conventions.

The company is a member of the Association of Centenary firms over 100 years in the United States, since December 1, 1827. It is possible there are about 50 other firms which are over 100 years old, yet are not eligible to this association as ownership in the firm has not been handed down in unbroken descent from the founder. The Philadelphia Chamber of Commerce pays a tribute to the business houses which have been in existence more than 100 years, by giving them a banquet every year.

The McDowell paper mills is now located about 1½ miles from the old original William Rittenhouse Paper Mill, the first paper mill in the United States.

Discontinue Newsprint Investigation

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., September 4, 1935—The Interstate Commerce Commission has announced that it has discontinued its investigation into newsprint paper rates to Illinois territory in its I & S docket No. 4124. Hearing in this case had been set for September 6 at Buffalo, N. Y. before Examiner Berry and this has also been cancelled. The investigation was ordered on August 3 and it was vacated as of August 31. No reason is assigned for discontinuing the investigation.

New and Revised TAPPI Standards

The Technical Association of the Pulp and Paper Industry has just sent a mailing to its members of the following Standards of the Association:

E 200 p—Paper Drying Code
O 401 p—Alkaline Pulping Thermal Code
T 5 m—Ether Solubility of Wood
T 6 m—Alcohol-Benzene Solubility of Wood
T 202 m—Chlorine Consumption of Pulp
T 204 m—Pitch in Wood Pulp
T 206 m—Cuprammonium Disperse Viscosity of Pulp
T 210 m—Weighing, Sampling and Testing Wood Pulp for Moisture
T 212 m—One Per Cent Caustic Soda Solubility of Pulp
T 400 m—Sampling Paper for Testing
T 402 m—Conditioning Paper for Testing
T 407 m—Amount of Coating of Mineral Coated Paper
T 409 m—Machine Direction of Paper
T 410 m—Basis Ream Weight of Paper
T 411 m—Thickness of Paper
T 412 m—Moisture in Paper
T 413 m—Ash in Paper
T 414 m—Tearing Resistance of Paper
T 415 m—Casein in Paper (Qualitative)
T 416 m—Rosin in Paper (Qualitative)
T 418 m—Proteinaceous Nitrogen in Paper
T 421 m—Mineral Coating of Paper
T 422 m—Mineral Filler in Paper
T 424 m—Gloss of Paper
T 425 m—Opacity of Paper
T 431 m—Ink Absorption of Blotting Paper
T 432 m—Water Absorption of Bibulous Papers
T 433 m—Water Resistance of Paper
T 434 m—Acid-Soluble Iron in Paper
T 435 m—Hydrogen Ion Concentration (pH) of Paper Extracts
T 436 m—Arsenic in Paper
T 601 m—Analysis of Gasoline
T 602 m—Analysis of Sulphuric Acid
T 603 m—Analysis of Sulphur-Burner Gas
T 604 m—Analysis of Bisulphite Cooking Liquor
T 610 m—Preparation and Standardization of Volumetric Solutions (sheet 2)
T 614 m—Analysis of Alum (sheet 2)
T 615 m—Analysis of Mineral Fillers (sheet 2)
T 619 m—Analysis of Salt Cake
T 620 m—Analysis of Water
T 621 m—Analysis of Rosin

Louis J. Schreiber Retires

DAYTON, Ohio, September 3, 1935—Fifty-one years, more than a half century, in the employ of one company—that is the remarkable record held by Louis J. Schreiber, retiring superintendent of the Black-Clawson company of Hamilton, who was honored Wednesday night at a banquet at Seevers' Grove.

Fellow workers and close friends gathered to honor Mr. Schreiber on the occasion. They were welcomed by Joseph Scholler who was toastmaster and introduced the speakers of the evening whose reminiscences were very entertaining and most complimentary.

Judge Elmer N. Davidson, of the municipal court, was the principal speaker and in a very beautiful talk on "Youth vs. Age," he paid a very high tribute to Mr. Schreiber who started at the bottom in the Black-Clawson company and rose to a general foreman and later to superintendent, a position which he filled for the past 15 years.

Obituary

Charles C. Wilson

PORTLAND, Me., September 3, 1935—Charles Coburn Wilson, aged 88, well known paper manufacturer, of 256 Main street, Auburn, died August 26 in the Central Maine General Hospital, Lewiston, of which he had been director. He had been in failing health a number of years and was in the hospital for observation and treatment.

Mr. Wilson was widely known in pulp and paper circles and as president of the William Tell Club. He was born July 14, 1847, the son of Nathaniel and Abigail Wilson, at Orono, and was one of eleven children. Mr. Wilson married Alice Phillips of North Bangor in 1870. She died three months ago.

After living two years at Bangor Mr. and Mrs. Wilson settled at Auburn, where Mr. Wilson was associated with the R. C. Pingree Lumber Company. Later he was associated with the Bearce Wilson Lumber Company.

He was president of the Odell Manufacturing Company and of the Groveton Paper Company, Groveton, N. H., former president of the McCray Lumber and Wilson Lumber Companies and a director of the Brompton Pulp and Paper Company, of Canada. He was a director of the Manufacturers Bank in Auburn, a life member of the Mystic Shrine and Rabboni Lodge and a 32nd degree Mason.

Mr. Wilson was the first Democratic alderman from Ward Two, Lewiston, and was an honorary member of the Rotary Club. His winter home was in Tampa, but ill health had prevented him from going there the past few seasons.

In 1930 he and Mrs. Wilson celebrated their 60th wedding anniversary.

Surviving are a son, Charles H. Wilson, 262 Main street; three grandchildren, Ruth, Charles and June; two sisters, Mrs. Clara Fuller of Scotia, N. Y., and Mrs. Emma Jordan of Orono, and a brother, the Rev. F. A. Wilson, Andover, Mass.

George R. C. Sours

Walker Goulard Plehn Company, mourns the loss of their associate, George R. C. Sours, who was born in Elizabeth, N. J., of an old New Jersey family, and educated in the Elizabeth, N. J. schools.

At the age of sixteen he joined D. S. Walton & Co., and sold for this concern for over fifteen years. He was also connected with the Gatti-McQuade Paper Company, and later with Maurice O'Meara Company, and its successor the Walker Goulard Plehn Company of 448 Pearl street, up to the time of his death.

In his forty-six years in the paper merchandising business, Mr. Sours made a wide acquaintance among distributors and mill men in the trade.

Form Mutual Benefit Association

BEAVER FALLS, N. Y., September 3, 1935—A meeting of employes of the J. P. Lewis Company was held here this week at which plans for a mutual benefit organization were perfected. The organization has enrolled in its membership nearly all employees of the paper mill and will be known as the Lewis Company Mutual Benefit Association. The officers chosen included William Barnes as president; Imbert Schorge, vice president; Walter Clark, secretary; J. F. Cassidy, treasurer. The board of governors elected includes Arthur Stiles, Harry Jones, R. O. Parker, Walter O'Brien and Chester O'Brien.

Labor, Hour and Wage Changes

WASHINGTON, D. C., September 4, 1935—Just before the adjournment of Congress President Roosevelt sent a communication to Senator Pat Harrison, chairman of the Senate Finance Committee stating, in effect, that at the next session of Congress he proposed to ask for some kind of permanent NRA legislation.

At the time he sent this letter he attached thereto figures compiled by NRA for the month of July showing labor and hour changes in the paper and other industries. Without designating whether the paper firms were mills, wholesalers or retailers, the table shows that in July 45 changes were made in hours, 9 changes in wages, 9 changes in both hours and wages and 41 price cutting violations. The following table is also shown in detail with regard to paper:

PAPER

Month of July 1935; August 13, 1935

Reports have been received of 45 instances of increases in hours in 16 States; 9 instances of decreases in wages in 6 States; 9 instances of increases in hours, and reductions in wages in 4 States, and 41 instances of price cutting in 10 States, distributed as follows:

Hours		Wages		Hours and Wages		Price Cutting	
New York	12	New York	4	New York	6	New York	27
Illinois	7	Alabama	1	Maine	1	Tennessee	6
Massachusetts	4	Michigan	1	Massachusetts	1	Arizona	1
Colorado	3	Oklahoma	1	Nebraska	1	California	1
Minnesota	3	Pennsylvania	1			Georgia	1
California	2	Virginia	1			Massachusetts	1
Nebraska	2					Illinois	1
Florida	2					Rhode Island	1
Oklahoma	2					Virginia	1
Virginia	2					South Carolina	1
Maryland	1						
Michigan	1						
Mississippi	1						
Maine	1						
New Jersey	1						
Ohio	1						
Total	45	Total	9	Total	9	Total	41

Government Paper Bids and Awards

WASHINGTON, D. C., September 4, 1935—The Government Printing Office has received the following bids for 19,010 sheets of yellow and blue gummed paper. The bids are given on yellow first and then blue: Mathers-Lamm Paper Company, at $8.23 per M and $8.375; Virginia Paper Company, $8.24, and $8.38; R. P. Andrews Paper Company, $8.80 and $8.80; Whitaker Paper Company, $8.50 less 2 per cent and 8.65; Reese & Reese, Inc., $10.05 and $10.05; Walker-Goulard Plehn Company, $9.50 less 2 per cent and $9.50; Old Dominion Paper Company, $10.24 and $10.24; and J. R. Howarth Paper Company, Inc., $8.50 and $8.65.

Reese and Reese will furnish 2,500 pounds (5,000 sheets) of 26x38 No. 100 newsboard at 1.725 cents per pound, bids for which were received on August 14.

Bids were also received for 54,600 pounds (300,000 sheets) of white sulphite index paper as follows: all at 6.06 cents per pound, Virginia Paper Company, Whitaker Paper Company, Reese and Reese, Old Dominion Paper Company, Barton, Duer & Koch Paper Company, R. P. Andrews Paper Company, George W. Millar & Company, and Champion Coated Paper Company; Paper Corporation of the United States, 6.25 cents; and Mathers-Lamm Paper Company, 5.995 cents.

The Mathers-Lamm Paper Company has been awarded the contract for furnishing the Government Printing Office with 54,600 pounds (200,000 sheets) of 22½x28½, 182 pounds, white index single ply at 5.995 cents per pound, bids for which were received on August 19.

The same company will also furnish 16,900 sheets of yellow gummed paper, 20x25 at $8.23 per M sheets and 2,110 sheets of blue at $8.375 per M sheets, bids for which were received on August 16.

Indianapolis Reports Better Prospects

[FROM OUR REGULAR CORRESPONDENT]

INDIANAPOLIS, Ind., September 2, 1935.—A decidedly better tone was seen in the fine paper market here during the past week, according to leading jobbers. The return of both customers and executives from vacations together with the coming of the first really cool weather, did much to stimulate business. It is believed the summer lull in the fine paper field is over. According to reports there is quite a bit of prospective work ahead of the printers, particularly in the advertising field, most of it due for the fall trade. Not only have inquiries for such items as books and covers and bonds and ledgers increased considerably, but an early resumption of sales has led the trade to believe there will be some real fall business.

The past week saw the first indication of fall in a slump in movement of summer specialties. The decline has not been so marked, but this week, following Labor Day, the trade expects most of the business to be finished. Tissues continue to move in good volume.

Box factories here are relatively busy. The demand is hardly what it was in the spring, but it shows signs of increasing. Some of the local executives report an increase in demand from the automobile accessory factories preparing for the fall and winter season. There remains a steady demand from the hosiery mills. Inquiries are being received now in greater volume from the confectionery trade, which has been more or less out of the market during the summer months.

Reports from the common paper field also are more optimistic. A fair movement is reported for kraft and also for bags. Some of the increase in bag demand is coming from the dry cleaning trade, which is said to be very busy. Heavier sales of newsprint also are reported. In the newsprint the summer lull, which was not much of a lull, appears to be ended definitely. Local advertisers now are using space for fall merchandise and this week, just prior to the opening of school, should see a noticeable increase in lineage.

Rushmore Mills Rush Addition

GOUVERNEUR, N. Y., September 2, 1935—Favorable weather conditions are aiding in the construction of the new addition being built by the Rushmore Paper Mills for finishing and warehouse purposes. The structure is being built of steel and concrete and will furnish about 16,000 square feet of additional space when completed. A network of steel girders have already been laid and the walls are now under construction. Repairs have been completed on the spur track running from this village to the plant, about a mile distant, and it is now available for freight purposes. Improvements are yet to be made to the side track running from the spur to the finishing department and a section of the paper mill. Remodeling of the paper machine is expected to be completed soon.

The flume at the mill was opened late last month and the boilers were tested a few weeks ago in preparation for reopening. At that time no definite time could be fixed for reopening but it was indicated that manufacture of products would be started within two months. It is expected that the new addition will be ready for occupancy late in September. Welfare officials here claim that the activity at the plant has relieved unemployment to a great extent through the hiring of a large number of residents. Prediction is also made that reopening of the mill will prove beneficial to merchants in this section. James S. Wemyss, of Lancaster, N. H., is president and treasurer of the company.

Aetna To Make Improvements

[FROM OUR REGULAR CORRESPONDENT]

DAYTON, Ohio, September 3, 1935—Definite arrangements were made this week by L. P. Boswell, general manager of the Aetna Paper Company, Columbia street, for the extensive improvements planned last April, in the installation of a new boiler plant.

Two boilers already have been purchased and the contract for the stokers just completed, and work will be pushed as rapidly as possible. It is planned to raise the roof of the present boiler house and to install the boilers, stokers, ash-handling equipment and coal conveyor. A 240-foot stack also will be erected. W. I. Barrows, industrial engineer, Dayton, has charge of the installation.

Although tentative plans were made for this improvement some time ago, delay was occasioned. During the past week, however, after the purchase of the boilers, rapid strides were made in the work.

The proposals for the boilers and stokers have been under consideration for the past fortnight.

It is expected the improvements will involve an expenditure of $140,000. Originally, it had been planned to expend $90,000 but the expense was under-estimated.

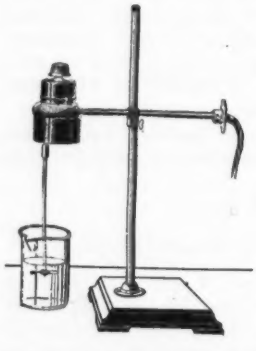
The Aetna mills have for many years supplied most of the product used by the International Envelope Corporation, together with the Maxwell Paper Company at Franklin, an affiliate concern. The Aetna Company has received paper contracts also from the Government for various lots of high-grade paper, and prospects for steady operation of the plant are favorable. The awards made by the Government printing office amounted to several hundred thousand dollars, dating from last March.

Improvements are also being made at the Maxwell plant in Franklin, a new office structure being planned.

Both the Aetna and Maxwell plants are headed by Col. Maxwell Howard, head of the Howard Paper Company, Urbana, and who divides his time between that mill and the plants in Dayton and Franklin.

The "Lab-Mix"

A new useful tool has recently been perfected which now makes it possible to save time and be sure of accurate results. It is called the "Lab-Mix". This is not just another mixer, but a sturdy, well built accessory most useful in making emulsions, dissolving dyes, gums and resins, waxes and bitumens, pyroxylin, cellulose, ethers, casein, glue, gelatin, starch, salts; extracting crude drugs and herbs, oils seeds, complex organic materials, etc.



Actuated by a shaded pole type motor (110v. 60 or 25 cycle) it will run 24 hours daily without damage. It is non-sparking and will not be injured by fumes and vapors. It has a free speed of 2800 r.p.m., which may be varied as needed by the rheostat. It fits an ordinary clamp holder or may be screwed to a shelf or wall. The shaft and propellor are furnished in chromium plate or Monel. A flexible 6 foot, rubber covered cord and soft rubber plug are included.

The Lab-Mix is said to be the lowest priced durable stirrer on the market today.

Wants Newsprint on Quota Basis

GLENS FALLS, N. Y., September 3, 1935—In an address this week John P. Burke, president of the International Brotherhood of Pulp, Sulphite and Paper Mill Workers, declared that his unions are unalterably opposed to the granting of a loan by the Reconstruction Finance Corp. for the construction of pulp and paper mills in the South. In regard to the report that the RFC has made a large loan to the Crossett Lumber Co. for construction of a kraft bag mill in Arkansas he said that he can see no economic justification for any such use of government funds. The erection of new paper and pulp mills in the South will not create more jobs, he said, because the building of new mills in an industry that already has too many mills will simply result in closing down mills that are now operating or forcing them to adopt short time.

Mr. Burke also called attention to the negotiations now under way by government officials for a reciprocal trade agreement with Canada. He contends that the importation of newsprint from all foreign countries should be placed on a quota basis which would save the industry in this country from ruin and still furnish an immense market to newsprint producers in foreign countries.

Performance Book

Performance facts are always interesting and give a prospect or customer something concrete on which to base future purchases. The Graton & Knight Company of Worcester, Mass., manufacturers of Research Leather Belting, have recently sent to their distributors and salesmen a Performance Book that contains many interesting experiences from actual case studies.

In this book, you are able to see the actual results of the work that is being carried on at the "Home of Research." Typical of the studies contained in the book is the one in which a textile mill found that they obtained a bonus of $9.84 per drive belt per year from a 1 per cent increase in speed made possible by a Research Belt. Another reports that on a Davis & Furber card, there was less than 0.6 per cent stretch in a year's service. A lumber mill says that a research belt operated on a head rig for two seasons without cutting or maintenance. In a food plant the superintendent says that research licked the worst drive in his plant. And so the book goes on—with definite and concrete evidence of the performance of Research Belts.

T. A. Wark Leaves St. Regis

NORFOLK, N. Y., August 30, 1935—Announcement is made here that Thomas A. Wark will sever his connections as general manager of the paper mills in Northern New York under control of the St. Regis Paper Company, on September 1. His resignation was filed recently. He became identified with the company as general superintendent in 1916 when the interests were confined to the Black River Valley. Some time later the mills of the Hanna Paper Corporation in St. Lawrence County were acquired by the company. Prior to that time he had been connected with the Brooklyn plant of the Tidewater Paper Company. He severed connections with St. Regis only to return in 1931 as general manager following the retirement of Corwin T. Jewell, who embarked in business for himself. Previously Mr. Wark had been connected with the Union Bag and Paper Company at Three Rivers, Canada. For a time he had also been connected with the Glens Falls mill of Finch, Pruyn & Co. His future plans have not yet been made known.

Increase Demand for Canadian Newsprint

Probability of a steadily increasing overseas demand for Canadian newsprint is suggested in the Royal Bank of Canada's September letter.

Newsprint exports to countries other than the United States were 6 per cent of Canadian production in 1927, but amounted to 18 per cent of the increased 1934 production. In 1932 Canadian newsprint production was 1,914,000 tons, and in 1934 increased to 2,599,000 tons, a third of the increase being sold in overseas markets.

Scandinavian and Newfoundland output of newsprint, says the letter, seems to be approaching the maximum which can be economically produced. Unless newsprint prices rule higher, proposals for increased United States production by developing mills in Oregon or Alaska, or by a new Southern pine process, seem improbable due to the large investments necessary. Home demand is looked to take care of any increased production in Russia.

Between 1927 and 1934 newsprint consumption overseas increased more than 1,300,000 tons. With 40 per cent of the world's newsprint capacity, Canada, producing two-thirds of the newsprint entering international trade and with 1934 excess capacity against production greater than that of the rest of the world. has been the chief sufferer from underconstruction and low prices.

Government Paper Bids

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., September 4, 1935—The Government Printing Office has received the following bids for 17,900 pounds (100,000 sheets) of white antique book paper; at 5.25 cents per pound; Barton, Duer & Koch Paper Company, R. P. Andrews Paper Company, and Paper Corporation of the United States; Whitaker Paper Company, 5.75 cents; and J. R. Howarth Paper Company, 5.35 cents.

For 46,000 sheets of buff gummed paper; R. P. Andrews Paper Company, at $8.45 per M sheets; Mathers-Lamm Paper Company, $7.44; Whitaker Paper Company, $7.22; Walker-Goulard-Plehn Company, $9.54; J. W. Butler Paper Company, $9.90; Virginia Paper Company, $7.50 and J. R. Howarth Paper Company, $7.55.

Not Sole Agent

The American Lace Paper Company, Milwaukee, Wis., writes: "We observe in your last issue a news item headed 'New American Lace Paper Agent' and stating that the Enterprise Paper Company has been appointed sole agent for us in Philadelphia. This is in error. The Enterprise Paper Company distributes a number of our products and we co-operate very closely with them as a jobber, but they have never been appointed a sole agent on any of our items."

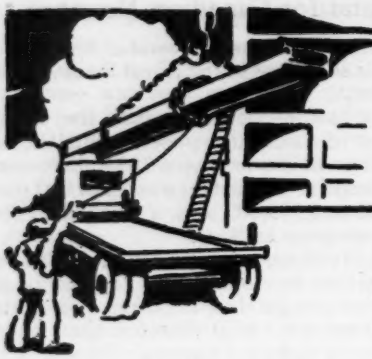
Goes with Wheelwright Properties

George W. Penniman has accepted the position as mill manager and general superintendent with the Wheelwright Properties, Inc., at Wheelwright, Mass.

Having had several years' experience in the paper business he is well qualified for the position.

S. C. Willey Goes with Perkins-Goodwin

Effective September 1, Stanley C. Willey, formerly with Atterbury Bros. Inc., will become associated with Perkins-Goodwin Co. in their Pulp Department.



CONSTRUCTION NEWS

A Summary of Vital Facts Regarding Construction, Finances and Operation of Paper Mills

Construction News

Green Bay, Wis.—The Fort Howard Paper Company, manufacturer of tissue, crepe and kindred paper stocks, has approved plans for new addition to mill, to be one-story, 100 x 200 feet, to be used in part for storage and distributing service. General contract has been awarded to the Selmer Company, 305 East Walnut street, Green Bay, and superstructure will be placed under way at early date. It will cost close to $80,000, including equipment.

Cleveland, Ohio—The Great Lakes Box Company, 5113 Hamilton avenue, manufacturer of folding and other paper boxes and containers, has arranged for lease of portion of former local plant of the Cleveland Macaroni Company, 7275 Wentworth avenue, S.W., comprising two entire floors in main building and one floor in adjoining structure, totaling about 70,000 square feet of floor space in all. Property will be remodeled and improved, and occupied for new plant. General contract has been let to the Arthur H. Binns Company, 7504 Carnegie avenue, Cleveland, for building alterations and improvements to accommodate the new industry. Great Lakes company will remove present plant to new location and carry out increased capacity.

Reading, Pa.—The Reading Corrugated Container Corporation, recently organized with capital of $40,000, plans operation of local plant for the manufacture of corrugated boxes and containers. Incorporators of new company include Linwood E. Gray and M. B. Ruse, both of Reading.

Detroit, Mich.—The Seaman Patrick Paper Company, 1225 Vermont street, has plans under way for new addition to plant, to be used for storage and distribution. New unit will be one-story and is reported to cost close to $25,000, with equipment. Frederick J. Winters, Book Building, Detroit, is architect. It is understood that bids will soon be asked on general contract.

Louisville, Ky.—The Louisville Paper Company, 13th and Maple streets, has filed plans for new one-story addition for storage and distributing service, for which superstructure will be placed under way at once. No estimate of cost has been announced. General contract has been let to Robert N. Struck, 2011 Woodbourne street, Louisville.

Brooklyn, N. Y.—The Continental Bag Specialties Corporation has been organized with capital of 60 shares of stock, no par value, to operate a local plant for the manufacture of paper bags and containers. It is proposed to begin production at early date. Incorporators of new company include H. R. Weaver and R. J. Cullen, 220 East Forty-second street, New York. James F. Hamill, last noted address, is company representative.

Birmingham, Ala.—The Winter Paper Stock Company, North Twenty-second street, sustained a fire loss recently when portion of building was damaged. An official estimate of loss has not been announced. The damage will be replaced.

Los Angeles, Cal.—General contract for new building for the Zellerbach Paper Company, 220 South Los Angeles street, at 1200 South Evergreen street, recently referred to in these columns, has been awarded to the Austin Company of California, 777 East Washington street, Los Angeles, which will begin work on unit at once. Structure will be used for paper converting, storage and distribution. It will be one-story, 182 x 940 feet, and will cost approximately $225,000, with equipment. New unit is expected to be ready for occupancy late in the fall. A contract for sprinkler system has been awarded to the Viking Automatic Sprinkler Company, 2715 East Twelfth street, Los Angeles, and for heating and ventilating to the Scott Company, 243 Minna street, San Francisco, Cal. Ralph Beebee, 1976 San Pablo avenue, Berkeley, Cal., and Leland S. Rosener, 233 Sansome street, San Francisco, are engineers.

Los Angeles, Cal.—The Kieckhefer Container Company, West Canal street, Milwaukee, Wis., with main plant at Delair, N. J., manufacturer of container board, chipboard and kindred products, has work in progress on a new one-story branch plant on Saluson avenue, near Central avenue and Avalon boulevard, Los Angeles. It is reported to cost close to $50,000, including equipment.

New York, N. Y.—The Saxon Paper Products Company, 15 Mercer street, has arranged for increase in capital from $125,000 to $175,000 for general expansion.

New York, N. Y.—The Reldan Paper Company, 45 West 29th street, has leased space in building at 252-58 West Twenty-ninth street, and will occupy for storage and distributing service.

Syracuse, N. Y.—The National Cellulose Corporation, 366 Fifth avenue, New York, manufacturer of cellulose paper specialties, with main mill at Baldwinsville, N. Y., has concluded arrangements for lease of building on Sunset avenue, Syracuse, formerly occupied by the Syrabord Company, and will use for new plant unit. Structure will be remodeled and improved, and equipment installed. Facilities will be provided for initial employment of about 100 operatives, to be more than doubled at later date. It is proposed to have the unit ready for service early in November. John J. Sullivan, manager of the Baldwinsville plant, will be in charge of production at new mill.

Chicoutimi, Que.—The idle pulp mill of the Quebec Pulp and Paper Company, Ltd., comprising three large units, was partially destroyed by fire recently, with loss reported over $350,000, including equipment. One mill was entirely destroyed and the other two severely damaged.

Preston, England—Courtaulds, Ltd., London, England, manufacturer of cellulose rayon products, has approved final plans for proposed new mill at Preston, where

G-E TURBINES FOR PAPER-MILL DRIVES

"... they have proven reliable and economical ..."

Says Johns-Manville

TWENTY-TWO EAST FORTIETH STREET.
NEW YORK, N.Y

June 13, 1935

General Electric Company,
1 River Road
Schenectady, N. Y.

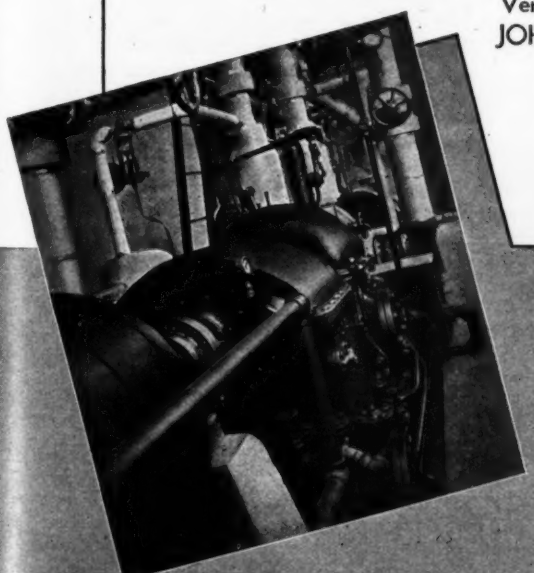
Gentlemen:

Two General Electric mechanical drive steam turbines, one rated at 100 H.P. and the other at 40 H.P. are driving the Paper Machine at our Pittsburg, California, Plant. In operation since 1927 they have proven reliable and economical with a speed range of 6 to 1. The 100 H.P. unit maintains satisfactory regulation and provides increments of speed required for our operation. Exhaust steam from the units is free of oil and when it is realized that they function as pressure reducing valves and driving units too, it is obvious that an economical arrangement results. There has been very little maintenance expense.

Very truly yours,
JOHNS-MANVILLE CORPORATION

H. C. Reuton

Chief Engineer,
Factories & Mines



One of the two G-E turbines which drive a paper machine in the Pittsburg, Cal., plant of Johns-Manville

PAPER mills everywhere are getting reliable, low-cost operation by using G-E turbines for driving paper machines and auxiliaries. G-E mechanical-drive turbines may be obtained in a wide range of sizes and ratings. Our application engineers, who know the problems of paper mills, are always ready to help you apply these turbines to the best advantage. The G-E sales office nearest you will be glad to supply you with additional information. General Electric, Schenectady, New York.

720-243

GENERAL ELECTRIC

large tract of land was recently taken over for such purpose. It will consist of several one and multi-story units, equipped for employment of more than 2,000 persons. Entire project is estimated to cost over $3,000,000, with machinery, and is scheduled for completion in October 1936.

Nurnberg, Germany—The Nurnberg Container Factory, manufacturer of paper boxes and containers, plans early rebuilding of portion of plant, recently destroyed by fire. Loss is estimated close to $100,000, including equipment.

New Companies, Etc.

De Pere, Wis.—The Arrow David Paper Company has been organized to manufacture and deal in paper products of various kinds. The incorporators include E. P. Barron and Isadore G. Alk, both of De Pere.

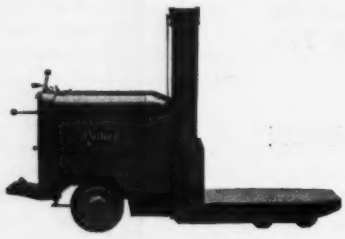
New York, N. Y.—The Noxoll Paper and Twine Company, 361 West 36th street, has filed notice of company dissolution under state laws.

Canton, Ohio—The Barnet Paper and Salvage Company, Inc., has been organized with capital of $5,000, to deal in waste paper goods. The incorporators include D. E. and E. M. Kramer, 616 Brant Building, Canton.

Lansing, Mich.—The Friedland Paper Company, 314 East Maple street, has been incorporated with capital of $50,000, to deal in paper products of various kinds. David Friedland, 711 North Capitol avenue, is principal incorporator and head.

"Streamlined" Five-Ton Hylift Truck

One of the outstanding pieces of equipment in the materials-handling section of the National Machine Tool Show is the new 5-ton HyLift truck which has been announced by the Baker-Raulang Company, Cleveland. The appearance of this new truck is entirely in keeping with the modern trend towards clean design and the elimination of all sharp angles and unnecessary outward component parts by placing all of the control and operating mechanism possible within the battery compartment enclosure.



The operating mechanism has undergone as radical redesign as has the appearance which results in a stronger, more satisfactorily operating truck. Hoisting is accomplished by two double alloy steel roller chains each having a capacity of 46,000 pounds, giving a factor of safety of 9.2 at this point. The hoist unit is a quadruple-reduction spur gear unit with all gears of heat treated alloy steel and having all shafts either ball or roller bearing mounted. The motion of the platform is protected at both the upper and lower limits of travel by cut-out control switches and further protection is provided by the use of an over-running clutch in the hoist unit.

The uprights are 10-inch cast alloy steel channels with 1¼-inch thick web and flanges. The platform is fabricated of 1¼-inch high-carbon steel lift arms and carriage electrically welded to a diamond-pattern platform plate and the platform rollers are of heat-treated and ground alloy steel, 7½ inches in diameter, mounted on ball bearings.

The main frame is of ½-inch flame cut high-carbon steel plate with adequate cross members extending from the operator's end of the truck to the uprights. The underframe is built up of two 1¼x5 and two ¾x5 high carbon steel plates. Rivets are electrically heated to reduce scale formation and are driven through drilled and reamed holes. The dual trailing axle is of alloy steel and is fully compensating, allowing the truck to ride over road obstruction without danger of tipping the load. Each trailing wheel is mounted on two adjustable tapered roller bearings carried on individual knuckles which turn on ball thrust and roller radial bearings.

The steering gear is of the worm and wheel type actuated by a vertical hand wheel. The main steering rods are of heat-treated alloy steel and all clevis connections are fitted with needle bearings which permit the operator to manoeuver this massive truck with ease under full load.

The power axle is the same tried and proven worm drive unit which has been used so successfully on other Baker trucks and is silent under all load conditions. The Duplex Compensating Suspension is used in this truck as in other Bakers and holds the axle in perfect alignment while allowing it to move freely in a vertical direction over rough floors without transmitting road shocks or twisting strains to the frame or steering mechanism. Both the travel and hoist motors are entirely made in the Baker plant especially for industrial truck service and have an overload capacity of 300 per cent of the rated load for 30 minutes. This truck can be furnished in any height of lift or platform length desired.

Schroon River Improvements

[FROM OUR REGULAR CORRESPONDENT]

WARRENSBURG, N. Y., September 3, 1935—Extensive improvements to the Schroon River Pulp and Paper Company are rapidly nearing completion after being in progress during the entire summer. New beaters have been placed in position and a new concrete floor laid in a section of the plant. The piping system is now being strengthened in addition to considerable interior painting. Practically all improvements have been made by employes of the company and it is expected that the work will be completed early in September.

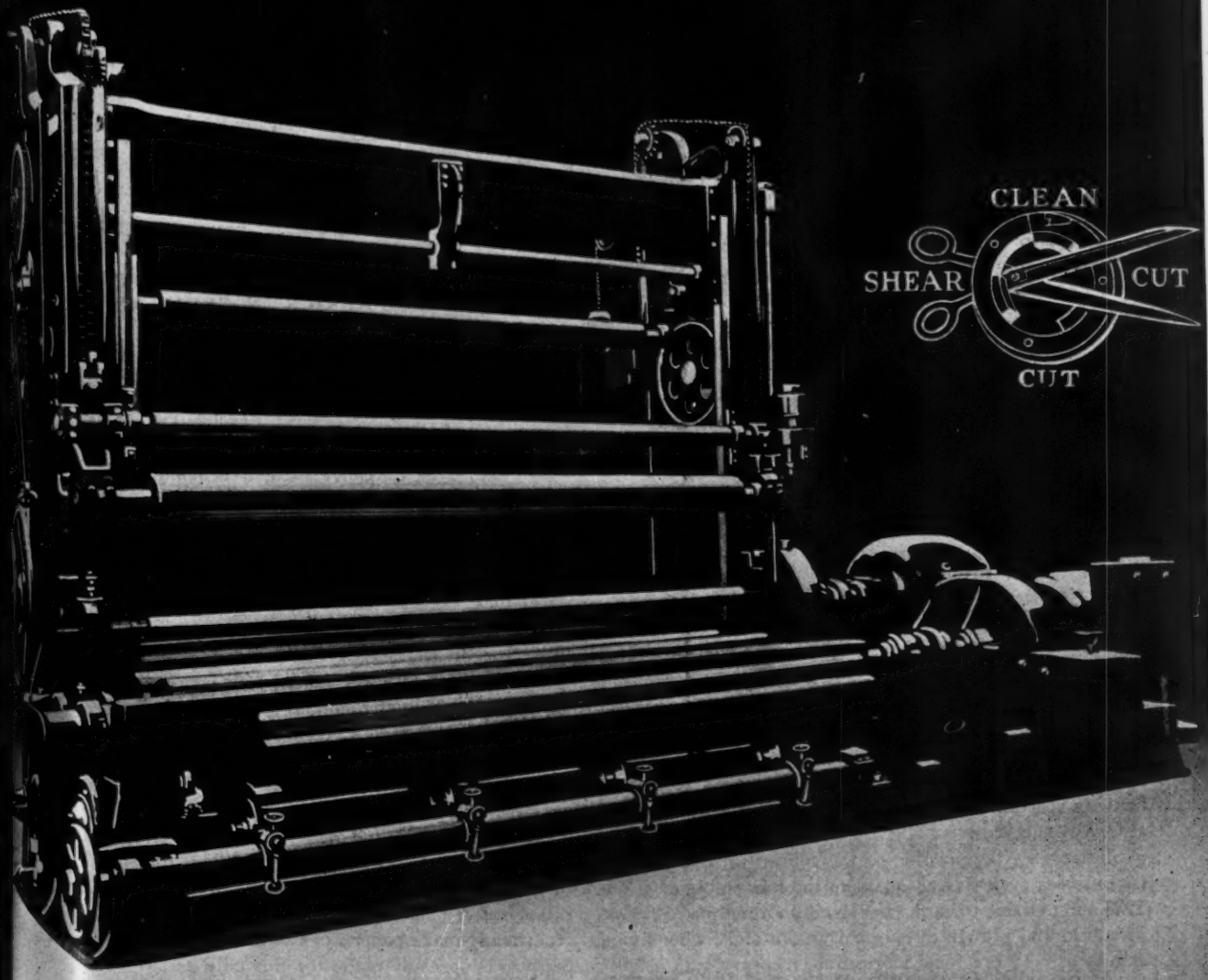
Benefitting by the unusually high water in the Schroon River during the past several weeks considerable pulpwood has been ground until now there is a sufficient stock in reserve to meet all emergencies and it is expected that when the paper machines are started in the near future there will be enough orders on hand to keep the mill running with full force all winter. It is said that officials have been in communication with customers of the company and it is expected that orders for fall and winter shipment will start soon.

The newly reorganized company has experienced exceedingly good business conditions and during the past winter the volume of orders booked necessitated day and night schedules. The reopening of the mill after several years of inactivity has resulted in a mild business boom in this section which has been very beneficial to merchants.

To Demolish Baeder-Adamson Mill

The Cleveland Wrecking Company, of 2847 East Allegheny avenue, Philadelphia, has been awarded the contract for demolishing and liquidating the plant of the Baeder-Adamson Paper Mill plant at Philadelphia. This plant comprises machinery of every type to manufacture paper, including engines, boilers, generators, pumps, railroad scales, tanks and various other commodities, and in addition over two million feet of lumber and several million brick.

WINDERS AND REWINDERS



SAMUEL M. LANGSTON COMPANY

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THE DAWN OF BETTER BUSINESS

There have been several false downs since 1930, says the American Bankers Association in the current issue of *Banking,* but the courage now in evidence seems quite different from previous instances of whistling in the dark. This difference is only partly concerned with the fairly satisfactory statistical position of industry. It rests to a large degree on temporary relief from anxiety and a realization that the American system of private enterprise is not in jeopardy for the time being; and it rests also on a human willingness to postpone the day of reckoning with Federal deficits, prospective taxation, the presence in our midst of millions of citizens supported by public funds and wielding tremendous power, and with other matters almost equally serious.

While the Banking Act of 1935 is distinctly a compromise it is also distinctly constructive. It has preserved intact all the good points in the Federal Reserve System as developed in over 20 years' practical operations and has corrected some of the weak points which the operations of 20 years have disclosed. It has met all legitimate demands for liberalization of credit while retaining safeguards for credit control and sound collateral for the currency.

The Act has met all legitimate demands for the centralization of control of credit and currency in keeping with the trend of the times. It has strengthened supervisory powers where more strength was needed and its general effect is to establish a more compact and manageable banking system without depriving unit banks of privileges they have enjoyed and valued. It is by no means a perfect banking instrument, but it is an improvement upon the system it succeeds.

Statistically, the position of the country in this particular business cycle is well up from the low points of 1932-1933 and is rising toward what should normally be a period of substantial growth in national wealth and higher living standards. In previous depressions recovery was usually induced by a combination of economy in government, the development of new industries, the easing of credit, and the availability of land for pioneers. The situation today is different. Good land for homestanding is scarce and so are pioneers. The Government is competing with business and spending more money than ever before. In the face, therefore, of unprecedented difficulties and hazards, private business must eventually absorb the unemployed and also find the money to pay for relief and emergency spending.

Fortunately at this point in the curve there is no longer any doubt about the identity of one new industry, at least, which is emerging according to predictions. It seems likely to have a profound effect on almost every major aspect of American commerce and finance, just as the automobile has been a factor of tremendous importance in the development of steel, rubber, plate glass, gasoline, transportation, and other industries.

There is no generic term by which to call it, except the inadequate word "housing." Its ramifications extend to every industry participating in the construction and equipment of places to live. A short list of products which will benefit by the impending advance in the spread of home comfort and convenience should include steel, lumber, glass, roofing, various scientifically prepared building materials, refrigerators, radios, all kinds of built-in electrical equipment, light, heat and cold insulation, modern plumbing fixtures, and equipment for ventilation and the automatic control of temperature.

STRIKING PROGRESS IN DEVELOPMENT OF PAPER FABRICS IN GERMANY

Production of yarns and fabrics from paper in Germany which developed during the war has made striking progress in the post-war period, according to a report from the American consulate-general, Frankfort-on-Main, made public by the Commerce Department.

The war type of paper yarn, it is pointed out, which consisted of a twisted strip of paper has been discarded and elaborate methods have been devised for producing ever finer, softer and stronger yarns. The latest German process departs from ready made paper entirely and produces paper yarn direct from the pulp.

The old-type paper yarn, the report states, might be likened to an endless mailing tube of exceedingly smaller diameter. It was made by running an endless strip of paper on to a spinning spindle which gave it the necessary twist and wound it on a bobbin, all in one operation. The paper for paper yarn was heavily sized and was made from chemical wood pulp. The strongest kinds of yarn were produced from sulphate paper similar to kraft. The tubular shape of such yarns resulted in coarse, stiff and unwieldly material. By pleating, creasing, creping or perforating the paper strip yarns were produced which were fuller, softer and more elastic. All these methods started from ready-made paper as raw material, even though that paper was specially made for this only use.

The latest German process produces paper yarn not

from paper but from the pulp in the paper machine. This kind of yarn is known as "Zellulongarn." The paper machine for "Zellulongarn" retains only the "wet end" of an ordinary paper making machine up to and including the wire. The "dry end" with its rollers and calenders, all intended to produce a flat endless sheet of paper, is replaced by machinery which is essentially textile. As the wet web leaves the wire it is separated into narrow strips which are then squeezed into cylindrical shape and dried to the point where they can stand the stretch and strain of spinning. The subsequent treatment is similar to that of any yarn consisting of textile fibers.

The pulp for paper yarn is unsized and therefore soft and pliable. Bleaching and dyeing is carried out in the beater, and it is said that pretty uniform coloring is produced by most paper dyes.

There is a certain "optimal twist" which produces the strongest yarn and this must be observed scrupulously in spinning. Despite the complete absence of size, "Zellulongarn" is very strong. It may be impregnated with paraffin or some other suitable material which is said to facilitate the further handling of the yarn. It may also be polished by running it through a polishing funnel.

Brown Co. to Omit Interest

PORTLAND, Maine, September 2, 1935—The Brown Company, $74,000,000 paper manufacturing concern, announced in a statement to bondholders today it was unable to meet interest due on its bonds and would file petition for reorganization under the new national bankruptcy act.

The concern, operating mills in Berlin, N. H., and La Tuque, P. Q., and holding extensive timberlands in this country and Canada, is one of the largest paper manufacturing companies in the East. Its general offices are in Portland.

Herbert J. Brown is president.

Approximately $21,425,000 in bonds were affected by the decision announced today. They included two 5½ per cent issues maturing in 1946 and 1950, secured by first mortgages.

The company reported net loss of $2,287,078 for the year ended December 1, 1934, compared with deficits of $2,689,351 in 1933, and $4,442,608 in 1932.

Its latest financial statement, issued December 1, last, showed the concern had total assets of $74,516,007, of which approximately $65,000,000 represented investment in mill properties and timberlands.

Bonded debt at the end of last year was $21,425,500 and there was also $1,020,000 in other long-term indebtedness. Capitalization consisted of common stock with a book value of $9,000,000, and $10,000,000 in 6 per cent cumulative preferred stock on which dividends were omitted in 1931.

As of December 1 last year, liabilities were listed at $5,139,136 and current assets as $6,114,560.

Advance Paper Co. Incorporates

[FROM OUR REGULAR CORRESPONDENT]

INDIANAPOLIS, Ind., September 2, 1935.—Articles of incorporation have been filed with the Indianapolis secretary of state by the Advance Paper Stock Company, Inc., 318 West Georgia street, Indianapolis, formed to deal in paper and paper stock. The corporation has 1,000 shares of no par value capital stock and the incorporators are Enos D. Pray, Jacob L. Steinmetz and Geneve G. Pray.

Weekly Production Ratio Report

Reports to the American Paper and Pulp Association show the following Over-All Production Ratios for the designated periods.

	Reporting Mills		Total Production
	Number	Capacity	Ratio
September, 1934	292–299	.....	59.4%
October, 1934	297–394	.....	64.7%
November, 1934	385–399	.....	61.7%
December 1934 (a)	396–404	.....	62.1%
January, 1935	397–411	.....	65.8%
February, 1935	407–409	.....	70.0%
March, 1935	406–408	.....	70.5%
April, 1935	405–407	.....	70.0%
May, 1935	379–407	.....	69.4%
June, 1935	355–374	.....	72.3%
July, 1935 (b)	355–356	.....	67.8%
*Week ending August 3, 1935	351	146,895	70.7%
*Week ending August 10, 1935	348	144,418	69.6%
*Week ending August 17, 1935	331	141,000	70.4%
*Week ending August 24, 1935	273	109,361	67.7%

Statistics showing the number of mills reporting by ratio groups are given below:

	Number of Mills Reporting — Week ending			
Ratio Limits	August 3, 1935	August 10, 1935	August 17, 1935	August 24, 1935
0% to 50%	132	114	104	88
51% to 100%	219	234	227	185

* Subject to revision.

According to reports from the National Paperboard Association per cents of operation, based on "Inch-Hours" were as follows:

	September, 1934	62 per cent	June 1935	65 per cent
	October, 1934	63 per cent	July 1935	59 per cent
	November, 1934	56 per cent		
(a)	December, 1934	53 per cent	August 3, 1935	66 per cent
	January, 1935	61 per cent	August 10, 1935	64 per cent
	February, 1935	67 per cent	August 17, 1935	65 per cent
	March, 1935	67 per cent	August 24, 1935	67 per cent
	April, 1935	61 per cent		
	May, 1935	61 per cent		

(a) Capacity and percentage data exclude December 25, 1934.
(b) Capacity and percentage data exclude July 4, 1935.

Revised statistics covering delinquent mill returns will be shown in later reports.

Howard Paper Co. Completes Improvements

The Howard Paper Company at their Urbana, Ohio Mills have recently completed changes and improvements in their power plant involving an expenditure of approximately fifty thousand dollars. These improvements included the installation of modern stokers, coal conveying machinery, and ash handling equipment and will enable the Howard Company to more economically and efficiently handle the increasing demand for their Howard bond, ledger and mimeograph papers—widely advertised as "The Nation's Business Papers."

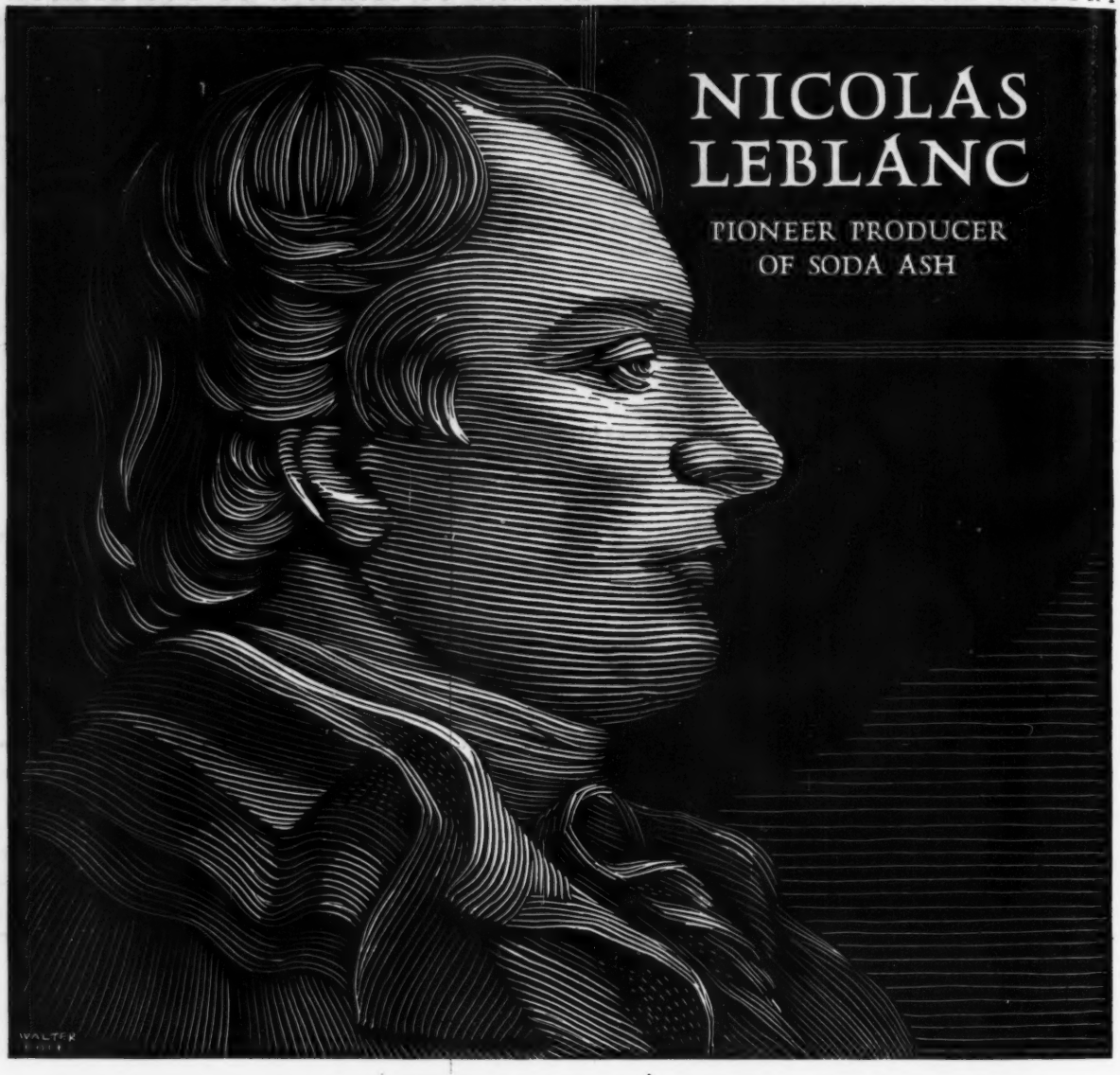
The demand for the Howard Lines both in the United States and the export field has increased considerably during 1935. The Howard Paper Company, as well as its allied mills, the Aetna Paper Company, Dayton, Ohio, and the Maxwell Paper Company, Franklin, Ohio, have been running full time and report a considerable volume of business ahead.

Sweden Produces More Newsprint

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., September 4, 1935—Newsprint production in Sweden during the month of May totaled 23,580 metric tons, an increase of 3,027 tons over April and of 3,386 tons over the corresponding month last year, according to Acting Commercial Attache Osborn S. Watson, Stockholm. Exports of newsprint from Sweden, according to official statistics, amounted to 17,484 tons as against 17,870 tons during the corresponding month in 1934.

NUMBER ONE OF A SERIES OF FAMOUS PIONEERS IN CHEMICAL HISTORY



In 1791, Nicolas Leblanc won the prize of 2,400 livres offered by l'Academie des Sciences de Paris for his processs for making soda ash from salt. He never received the prize money, however. During the French Revolution, Leblanc's patents were voided and his plant wrecked by a mob. In dire poverty, in 1806, he ended his life by suicide.

WHEN Nicolas Leblanc built his soda works at St. Denis, France, nearly a century and a half ago, he established himself as the pioneer manufacturer of soda ash. Although his process was never used in the American alkali industry, it was not until 1895 that production of soda ash by the now universal ammonia-soda process exceeded production by the old Leblanc process. Mathieson, another pioneer producer of soda ash, starting operations at that same time forty years ago, has been in continuous production ever since. Mathieson Soda Ash has long been accepted by the chemical consuming industries as the standard of high, uniform quality.

The MATHIESON ALKALI WORKS (*Inc.*), 60 East 42nd St., New York, N.Y.

SODA ASH . . CAUSTIC SODA . . . BICARBONATE OF SODA . . . LIQUID CHLORINE . . . BLEACHING POWDER . . . HTH AND HTH-15 . . .

Mathieson Chemicals

AMMONIA, ANHYDROUS AND AQUA . . . PH-PLUS (FUSED ALKALI) . . . SOLID CARBON DIOXIDE . . . CCH (INDUSTRIAL HYPOCHLORITE)

Section of the
Technical Association of the Pulp and Paper Industry
Edited by Ronald G. Macdonald, Secretary

The Technique of Determining Moisture Vapor Transmission Through Papers and Boards*

By Donald K. Tressler[1] and Clifford F. Evers[2]

Abstract

Certain refinements are considered which have been found to increase greatly the accuracy of tests previously used to determine moisture vapor transmission through papers and boards. The modifications include the careful control of the humidity of the test chamber, the bringing of the papers to be tested to equilibrium with the atmosphere of the test chamber, the starting of the test period 48 hours after the apparatus is placed in the chamber, the extension of the test period to 5 days, and the determination of the rate of moisture vapor transmission not only at 21.2 deg. C. but also at a temperature below 0 deg. C. Data, obtained by the modified method, are presented which give the rate of moisture vapor transmission of some moistureproofed transparent papers and boards.

The recent great improvement in the moisture vaporproof quality of certain modern packaging materials has made necessary the introduction of certain refinements in the procedures employed in the estimation of the rate of transmission of moisture vapor through papers and boards in order to determine the relative value of these materials for the protection from desiccation of frozen foods during cold storage. The literature on methods of examining papers and boards to be used for the packaging of frozen foods is meager and until now no method has been proposed which could be employed under cold storage conditions. Hyden *(4)* has described a method used in his laboratory for the rapid determination of the rate of transmission of moisture through cellophane. "The moistureproof quality is determined by sealing a piece of the material to be tested over a glass dish containing water and determining the loss in weight when the test dish is placed in an air oven at 37.8 deg. C. The air in the oven is circulated by a fan and desiccated by concentrated sulphuric acid kept in flat trays. By carrying out the test at 37.8 deg. C. the rate of diffusion is much greater than at lower temperatures and the test is thus accelerated."

Abrams and Chilson *(3)* have more recently presented a comprehensive treatise in which the several factors bearing on the rate of transmission of moisture vapor through papers are considered. Abrams *(1)* has given further details of the standard technique employed in making this determination in his laboratory. He *(2)* also published the results of tests on a number of papers.

For several years, The Birdseye Laboratories employed either the technique described by Hyden or that by Abrams with apparently satisfactory results although there was little evidence to prove that the results were comparable with those obtained under the conditions at which the papers and boards were used, i. e. in cold storage. From season to season there were minor variations in the results obtained by testing a given type of paper, but by including each time, in the series of papers undergoing test, a sample of a paper of known moisture vaporproofness (one which had been run several times previously) relative values were obtained. Recently, highly moisture vaporproof paperboards have been tested, whereupon it became impossible to obtain satisfactory checks by either technique. For this reason and also to obtain reliable information concerning the moisture vaporproofness of these materials at cold storage temperatures, further studies of these methods were undertaken.

Experimental

The irregularities in the results obtained began to be very serious in the winter when the humidity in the laboratory was very low. Some experiments run at 21.1 deg C. and 50 per cent relative humidity showed only slight losses whereas others actually gave increases in weight during the usual 24 hour period. This indicated that some samples of the paperboard were absorbing more moisture from the air of the chamber held at 21.1 deg. C. and 50 per cent relative humidity than they were transmitting. Evidently it is necessary to hold such boards, at the temperature and humidity at which they are to be tested, for some little time before employing them in a test. Further experiments showed that heavily coated boards do not come to equilibrium with the atmosphere of the 21.1 deg. C. and 50 per cent relative humidity room for approximately 3 days (see Table I). On the other hand, thin transparent papers such as moistureproof Cellophane and Kodapak attain equilibrium in about 24 hours. For these reasons, thin papers should be held for 48 hours and heavy papers and paperboards for 96 hours, under the conditions at which they are to be tested, before beginning the test.

* This work was carried out by the authors at The Birdseye Laboratories, Gloucester, Mass.
[1] Chief of Research, New York State Agricultural Experiment Station, Geneva, N. Y.
[2] Pierre Smirnoff Tils, Bethel, Conn.

Even when these precautions were taken, it was observed that the rate of loss of moisture was not uniform for the first 24- and sometimes for the first 48-hour period. Also, it was found that some papers and boards continued to transmit moisture at a uniform rate day after day, whereas others gradually became more pervious to moisture vapor (See sample No. 212, Table I).

For these reasons, the period taken for the estimation of the rate of moisture vapor transmission is from forty-eight to one hundred 68 hours after the test is begun. The average daily loss for this 5 day period is calculated and the results expressed as loss of moisture in grams per square meter per 24 hours.

When the above precautions are taken, uniformly accurate results are assured.

APPARATUS:

1. Crystallizing dishes, approximately 7.5 cm. in diameter and 3.75 cm. in depth.
2. Porcelain crucibles, approximately 10-cc. capacity, 25 mm. high and 30 mm. top diameter.
3. Porcelain casserole to hold the hot liquified wax.
4. Unbleached beeswax (also special wax for low temperature work).
5. A constant temperature oven, the compartment of which is rearranged with added equipment as shown in Fig. 1.

THE METHOD

A detailed description of the procedure recommended follows:

The paper to be tested is allowed to come to equilibrium with the atmosphere in a compartment or room maintained at 50 per cent relative humidity (±1.0 per cent) and 21.1 deg. C. (±0.5 deg. C.) in which there is a good circulation of air maintained by means of a fan. If the material under inspection is of paperboard or very heavy paper, it should be placed in the constant temperature, constant humidity compartment at least 96 hours in advance of the beginning of the determination; in the case of thin papers only 48 hours is required to reach equilibrium.

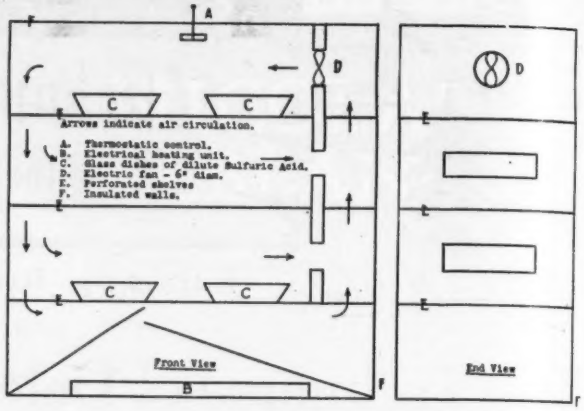


FIG. 1
Diagram of compartment used for moisture-vapor transmission rate tester.

When the material has reached equilibrium with the atmosphere of the constant humidity chamber, a 9-cm. square is cut and a crucible containing 10 cc. of distilled water placed thereon. The edge of a crystallizing dish is dipped to a depth of 0.5 to 1 cm. into melted unbleached beeswax. It is allowed to remain a moment in the beeswax, then lifted out and allowed to drain for an instant and then placed over the crucible. More wax is brushed around the point of contact of the dish and the paper until an absolutely perfect seal is obtained. After the wax has solidified, the dish is quickly turned upright, thus causing the water to run out of the crucible. Care must be taken not to wet the paper. The paper is trimmed to within 0.5 cm. of the edge of the dish.

The dish is placed on a piece of corrugated fiberboard on a perforated shelf in the constant humidity chamber referred to above. After 48 hours it is weighed and then at twenty-four hour intervals for 5 more days. If the paper or board under test does not deteriorate with a moist atmosphere on one side and if the temperature and humidity of the chamber does not vary beyond the

TABLE I
RATE OF MOISTURE VAPOR TRANSMISSION OF CERTAIN PACKAGING MATERIALS AT 21.1 DEG. C. AND 50 PER CENT RELATIVE HUMIDITY AS DETERMINED BY IMPROVED PROCEDURE

Sample No.	Material	Start	24 Hrs.	48 Hrs.	72 Hrs.	96 Hrs.	120 Hrs.	144 Hrs.	168 Hrs.	Av. Loss Per Sq. M. Per Day for Final 5 Day Period Grams
B101	Waxed Paperboard.....	58.853g.	58.866g.	58.869g.	58.866g.	58.860g.	58.852g.	58.847g.	58.841g.	
			+0.013	+0.003	—0.003	—0.006	—0.008	—0.005	—0.006	
		83.507	83.531	83.534	83.525	83.514	83.499	83.488	83.472	
			+0.024	+0.003	—0.009	—0.011	—0.015	—0.011	—0.016	1.3
		71.893	71.910	71.920	71.919	71.918	71.916	71.916	71.915	
			+0.017	+0.010	—0.001	—0.001	—0.002	—0.000	—0.001	
		Av. Change of Wt.	+0.018[1]	+0.005[1]	—0.0043	—0.006	—0.0083	—0.0053	—0.0076	
B102	Same as B101 except unwaxed and laminated.....	62.326g.	61.987g.	61.516g.	61.104g.	60.704g.	60.314g.	59.966g.	59.612g.	
			—0.339	—0.471	—0.412	—0.400	—0.390	—0.348	—0.354	
		82.157	81.823	81.360	80.950	80.553	80.168	79.822	79.461	79.1
			—0.334	—0.463	—0.410	—0.397	—0.385	—0.346	—0.361	
		66.224	65.889	65.413	64.985	64.571	64.170	63.815	63.444	
			—0.335	—0.476	—0.428	—0.414	—0.401	—0.355	—0.361	
		Av. Loss	—0.336	—0.470	—0.417	—0.404	—0.392	—0.350	—0.359	
P211	Cellulose acetate sheet.....	70.844g.	70.841g.	70.839g.	70.837g.	70.835g.	70.833g.	70.831g.	70.830g.	
			—0.003	—0.002	—0.002	—0.002	—0.002	—0.002	—0.001	
		66.110	66.106	66.104	66.100	66.097	66.095	66.093	66.091	
			—0.004	—0.002	—0.004	—0.003	—0.002	—0.002	—0.002	0.4
		72.064	72.061	72.060	72.058	72.057	72.055	72.053	72.052	
			—0.003	—0.001	—0.002	—0.001	—0.002	—0.002	—0.001	
		Av. Loss	—0.0033	—0.0017	—0.0026	—0.002	—0.002	—0.002	—0.0013	
P212	Moisture proof viscose sheet	79.813g.	79.811g.	79.804g.	79.795g.	79.788g.	79.778g.	79.770g.	79.762g.	
			—0.002	—0.007	—0.009	—0.007	—0.010	—0.008	—0.008	
		60.057	60.053	60.045	60.036	60.025	60.013	60.000	59.988	
			—0.004	—0.008	—0.009	—0.011	—0.012	—0.013	—0.012	2.2
		62.815	62.809	62.800	62.791	62.778	62.765	62.751	62.738	
			—0.006	—0.009	—0.009	—0.013	—0.013	—0.014	—0.013	
		Av. Loss	—0.004	—0.008	—0.009	—0.0103	—0.0117	—0.0117	—0.011	

Notes: Board No. 101, which was held in the constant temperature constant humidity chamber only 48 hours prior to the test, continued to absorb moisture from the 50 per cent relative humidity atmosphere for the first two days of the test. This indicates that boards should be held in the test compartment at least 96 hours prior to the conduct of the test.

limits set above, the daily losses of moisture from the dish will be uniform.

The average daily loss for the five day period is estimated. This average loss is multiplied by the figure obtained by dividing the area in square centimeters of the top of the dish into 10,000 square centimeters. The results are stated as grams loss per square meter per 24 hours.

The above method may be used at temperatures other than 21.1 deg. C. However, certain parts must be modified in order to obtain satisfactory results. Abrams *(2)* has shown that the moisture vapor transmission rate increases with a rise in temperature and decreases with a lowering in temperature. A decided lowering in the rate of moisture vapor transmission was found in tests run at —14.5 deg. C. when compared with 21.1 deg. C. runs. In order to obtain accurate results, the weighings must be made at, or very close to, the temperature at which the test is being run, otherwise there will be an error from moisture condensation.

The procedure used in conducting the test at —14.5 deg. C. is as follows: Sufficient water (about 10 to 12 cc.) is placed in a crystallizing dish. The dish is then allowed to stand in a cold storage room until the water freezes. When the water is frozen, the dish is inverted and dipped into a melted wax[3] bath, just long enough to wet the edge of the top of the dish with melted wax. The inverted dish is then placed immediately on the paper or board to be tested, and the paper cemented to the dish. The dishes thus prepared are transferred to the compartment at —14.5 deg. C. and 50 per cent relative humidity for 48 hours, at the end of which period, they are weighed and returned to the compartment. Semi-weekly weighings are made and at the end of ten days, a final weighing is made and the average loss per 24 hours is computed.

Discussion of Results

The data which are presented in Tables I, II and III are only a few of a large number obtained during a study of the procedure which occupied more than a year. The results given give a fair idea of the uniformity which may be obtained. No other procedure has been proposed which is applicable to a wide range of temperature conditions. Moreover, no other technique has been suggested which will give uniformly good check determinations with all types of papers and boards.

When the material examined is uniform, the results obtained by following the technique described check remarkably well. On the other hand if the paper or board is not of uniform quality, it is necessary to make the determinations in triplicate or quadruplicate. This is shown clearly in Table I. The three determinations run on board no. 101 do not agree at all well, whereas in the cases of board no. 102 and papers 211 and 212 the figures are in close agreement.

In some type of papers and boards the moistureproof coating becomes more pervious to water vapor during the period of the test. This is shown in Table I, paper no. 212, a "moistureproof" viscose sheet which in two tests permitted the passage of approximately a half more moisture vapor at the end of the five day period than at the beginning. In materials of this sort, it is probable that the test should be continued for 30 days or more, or at least until the passage of water vapor ceases increasing.

The data presented in Table III seem to indicate that there is not a constant relation between the amount of moisture vapor passing through papers and boards at ordinary room temperatues and that passing at low tempertures. Such a conclusion is not entirely unexpected as papers and boards differ widely in their content of moisture, glycerin, resinous and waxy materials. Some of these substances may crystallize or crack at low temperatures and thus permit moisture to pass whereas others may not.

TABLE II

RATE OF MOISTURE VAPOR TRANSMISSION OF TRANSPARENT "MOISTUREPROOF" SHEETS AT —14.5 DEG. C. AND 50 PER CENT RELATIVE HUMIDITY AS DETERMINED BY THE IMPROVED PROCEDURE

Sample No.	Material	Start	120 Hrs.	216 Hrs.	Av. Loss Per Sq. M. Per Day Grams
P211	Transparent cellulose acetate sheet.....	54.906g.	54.904g.	54.903g.	
"	"		—0.002	—0.001	
"	"	51.176	51.174	51.171	0.04
"	"		—0.002	—0.003	
"	"	59.192	59.191	59.189	
"	"		—0.001	—0.002	
"	"	Av. Loss	—0.0017	—0.002	
P212	"Moistureproof" viscose sheet.....	55.004g.	55.003g.	55.000g.	
"	"		—0.001	—0.003	
"	"	44.610	44.608	44.607	
"	"		—0.002	—0.001	0.04
"	"	52.504	52.503	52.500	
"	"		—0.001	—0.003	
"	"	Av. Loss	—0.0013	—0.0023	

[3] Since beeswax is too brittle for use at this temperature, a special wax was used. This special wax has the following formula: 67 per cent Cerese Wax Grade AA (obtained from Socony-Vacuum Oil Co.), 22 per cent Ester Gum and 11 per cent White Mineral Oil. Briefly the directions for making this wax are as follows: Melt the Cerese wax, pour in the mineral oil, and keeping this mixture heated to at least 120 deg. C., stir in previously melted ester gum.

TABLE III

THIS TABLE PRESENTS SUMMARIZED DATA ON A NUMBER OF MOISTUREPROOFED PAPERS AND PAPERBOARDS WITH A COMPARISON OF THE AVERAGE LOSS PER SQUARE METER PER 24 HOURS AT 50 PER CENT RELATIVE HUMIDITY, AT 21.1 DEG. C. AND —14.5 DEG. C.

Sample	Average Loss Per Square Meter Per 24 Hours at 50 Per cent Relative Humidity —14.5 Deg. C. Grams	21.1 Deg. C. Grams
Transparent Viscose Sheet (a)	.04	2.2
Transparent Viscose Sheet (b)	.04	4.6
Transparent Viscose Sheet (c)	.05	5.3
Transparent Cellulose Acetate Sheet (a)	.05	19.6
Transparent Cellulose Acetate Sheet (b)	.04	0.4
Coated Parchment Paper	.04	2.2
Cold Waxed Parchment Paper	7.0	8.8
Coated Parchment Paper	1.3	69.5
Coated Sulphite Paper (a)	1.5	1.9
Coated Sulphite Paper (b)	.05	0.7
Laminated Plain Board	.04	1.1
Lacquered Board	.88	2.3
Cold Waxed Board	.52	1.8

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Pomeroy Mfg. Co. Incorporates

INDIANAPOLIS, Ind., September 2, 1935.—Articles of incorporation were filed here last week by the Pomeroy Manufacturing Company, Inc., 408 East St. Clair street, Vincennes, Ind., formed to do a general paper manufacturing business. The corporation has 1,000 shares of capital stock with a par value of $100 a share and the incorporators are Harry Pomeroy, Fred G. Kimball and Roy Hudson, the latter being named resident agent.

Correction

In the August 22nd issue of THE PAPER TRADE JOURNAL on page 34 there appeared a review of the Paper Maker's Pocket Book by James Beveridge in connection with which a typographic error appeared in regard to the price. This should have been $6 instead of $3.

Pulp Testing References for 1934

By Donald E. Cable[1]

This compilation of pulp testing references for the last calendar year is here presented for the purpose of again focussing the reader's attention upon the relatively recent technical literature of pulp quality evaluation. This bibliography is arranged for convenience into subject groups, based upon the well organized list of test methods for paper making materials as published by Baird and Doughty in the Dec. 15, 1932 issue of PAPER TRADE JOURNAL (See pages 33 and 34).

These references are selected with the rather broad object in mind of listing not only articles that specifically describe one or more new or improved testing methods, but also articles that contain test results where application of the method or methods rather than the methods themselves was of major interest. Moreover, many pulp testing methods are applied with but slight alterations to the testing of the pulp yielding materials (such as wood) or of products derived from pulps (such as paper). Literature citations will also include testing methods in these allied fields where the methods or the data obtained should interest the pulp testing chemist, because of the obviously close relationship to the testing of this most important intermediate product with which the paper manufacturer has to deal.

In the selection of these references the compiler limited the field to those articles which appeared originally during the calendar year. Those published prior to 1934, but reprinted or described in abbreviated form during that year are excluded.

Abbreviations

For the purpose of economy of space the following special abbreviations have been adopted in preparing this bibliography:

P. M. A. G. B. & I.—Paper Makers' Association of Great Britain and Ireland.
P.-M. & B. P. T. J.—Paper-Maker and British Paper Trade Journal.
P. T. J. —Paper Trade Journal.
S. P. & P. C. & Eng.—(German) Society of Pulp and Paper Chemists and Engineers.
T. A. P. —Technical Association Papers.
W. P. T. R. —World's Paper Trade Review

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2. HAGGLUND, E. O. SANDELIN, C. NYMAN, T. ERIKSSON AND H. V. KOSKULL
XVIII. The influence of the quality of wood on the yield and quality of sulphite and sulphate pulp. I. Investigation of spruce wood. Svensk Pappers-Tid. *38*:133-9, 164-7, 196-202 (1934); (15 lines in C. A. *28*:3894).

3. KLASON, P.
Investigation concerning the relationship between the classification system of plants and their chemical constitution. Svensk Pappers-Tid. *37*:302-6 (May 31, 1934); Svensk Kem. Tid. *46*:108-17 (May, 1934); (6 lines in T. S. *99*:237).

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Concerning the solid lignin sulphonic acid and dissolving it out. Papier-Fabr. *32*:2-6 (January 7, 1934); (8 lines in T. S. *99*:237).

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Chemical studies on woods produced in Karafuto. Artificial Silk Staple Fibre J. Japan *2*:51-52 (1934); (C. A. *28*:4225); (7 lines in T. S. *99*:237).

Class 2000—Pulps and Stuffs

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Determination of ash, moisture and consistence of pulp; disintegration of the sample. Papier-Fabr. 32 T.-W. Teil 313-16 (July 8, 1934); (2½ columns in Paper Ind. *16*: 647); (T. S. *99*:263); (C. A. *28*:7523).

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[1] Member of TAPPI Pulp Testing Committee and chemist at the Development Department Laboratories, U. S. Rubber Products, Inc., Passaic, New Jersey.

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Probable error and accuracy of testing. P. T. J. *98*, No. 12:41-42 (Mar. 22, 1934); (5 lines in C. A. *28*:2895); (5 lines in T. S. 99:106).

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Chemical Control in Paper Manuf. P. T. J. *99*: No. 20: 45-48 (Nov. 15, 1934).

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Class 2216—Ash

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Class 2217—Methoxyl Content

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Structure of the cell wall of wood fibers. Paper Ind. *16*:178-183 (June, 1934); (T. S. *99*:310)

Class 2224.1—Fibrillation

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70. STRACHAN, J.
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Class 2225.2—Imbibitional—Sorption

72. KANAMARU, K.
Adsorption and swelling of cellulose in electrolytes of varying concentrations. Kolloid-Z. *66*, No. 2:163-75 (Feb., 1934), (20 lines in T. S. *98*:320)

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The sorption of water by cellulose. I. E. C. *26*:285-90 (Mar., 1934); (11 lines in C. A. *28*:2177); (10 lines in T. S. *98*:320)
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Capillary penetration in fibrous materials. I. E. C. Anal. Ed. *6*:85-90 (Mar. 15, 1934); (5 lines in T. S. *99*:106)

Class 2291—Beatability

75. CAMPBELL, W. B.
Comments on "The effects of beating on cellulose fibers." P. T. J. *98*, No. 3:33 & 34 (Jan. 18, 1934) (See also reply by J. d'A. Clark *ibid*, p. 34). Paper-Maker & B. P. T. Jour. *87*:82 TS & 83 TS (Apr. 2, 1934)

76. HARRISON, H. A.
Strength in wood-pulp papers. Effect of beating. Ind. Eng. Chem. *26*:458-61 (1934); (C. A. *28*:7009)
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Comparative beating tests with the Jokro mill. Papier-Fabr. 32, Aus-heft 31A, 34-41 (1934), (C. A. *28*:7525)
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The German standard method for determining pulp strength. Papier-Fabr. 32, 37-45 (1934); Transl. in W. P. T. R. *101*:762-68, 806-13 (Mar. 9, 1934); (22 lines in C. A. *28*:3895); (2 column abstr. in Paper Ind. *16*:129)
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Class 2291.1—Beater Processing

79. COTTRALL, L. G. AND J. L. GARTSHORE
A new type of laboratory beater for beating investigations, W. P. T. R. *102*: 320-332 (Aug. 3, 1934); 412-418, 458-464 (Aug. 10, 1934); (T. S. 100:12)

Class 2291.11—Use of 1 Lb. Valley Beater

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80. MORGAN, H. W.
A comparison of several methods for processing pulp test samples. P. T. J. *98*: No. 15:44-46 (Apr. 12, 1934); T. A. P. *17*: 74, 289-91 (June, 1934); (7 lines in C. A. *28*:3896); (Same in T. S. *99*:94)
81. SIMMONDS, F. A. & P. K. BAIRD
Processing variables in evaluating pulps by the pebble and rubber-covered ball methods. P. T. J. *98*, No. 20:33-42 (May 17, 1934); T. A. P. *17*:72-74, 299-308 (June, 1934); (50 lines in C. A. *28*:5980); (T. S. *99*:263)

Class 2291.3—Lampen Mill Processing

82. EDGE, S. R. H.
Relation of fibrillation to increase in strength on beating. W. P. T. R. *102*:606, 608 (1934) (10 lines in C. A. *28*:7525); (9 lines in T. S. 100:12)
83. HARRISON, H. A.
Laboratory beating characteristics of some grass and wood pulp fibers. Proc. Tech. Sec., P. M. A. G. B. & I. *15*:187-9; W. P. T. R. *102*:1376-8 (1934); (7 lines in C. A. *29*:1630)
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The value of the viscosity and copper number for the determination of the tendering of cellulose. Chem. Weekblad *31*:514-21 (1934); (10 lines in C. A. *29*:1623)
85. MARK, H.
Viscosity and molecular weight of cellulose solutions. Chimie & Industrie Special No. 788-791 (Apr., 1934); (T. S. *99*:308)

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86. EKENSTAM, ALF. AF
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87. NAKAJIMA, T.
Cellulose and its derivatives VI and VII. Monthly J. Artif. Silk and Staple Fibre Japan *2*:128-32, 172-5 (1934); (C. A. *28*:7000)
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Changes in cellulose in alkaline solutions. Melliand Textileber. *15*:405-8 (1934); (8 lines in C. A. *28*:700)
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Class 2294—Bleachability

89. SEBORG, B. C. O.
Bleach requirements of pulp. P. T. J. *98*, No. 8:109 (Feb. 22, 1934); T. A. P. *17*: 176 (June, 1934); P. M. & B. P. T. J. *87*:425-7 (May 1, 1934); 20 lines in C. A. *28*: 2897); (5 lines in T. S. *99*:105)
(See also reference 20)

Class 2294.1—Chlorine Consumption

(See reference 41)

Class 2294.11—Roe Number

90. AHLQUIST, H.
Determination of the mechanical pulp content by means of Roe's Chlorine Number. Svensk Pappers-Tidn. *37*, No. 10:306 (May 31, 1934); (7 lines in T. S. *99*:262)
91. JOHANSSON, D.
Comparison of German and Swedish methods for the determination of the degree of cooking of sulphite and sulphate pulps. Svensk Pappers-Tidn. *37*:100-02 (Feb. 28, 1934); Papierfabr. *32*:172-75 (Apr. 15, 1934); (8 lines in T. S. *99*:118 & 263); (C. A. *28*:6303); (4 lines in C. A. *28*:3894)

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92. JOHN, H. AND POPPE, F. W.
Alkaline bleach demand test for sulphite. P. T. J. *99*, No. 9:36-37 (Aug. 30, 1934); (T. S. *100*:78); (22 lines in C. A. *28*: 7008)

Class 2294.4—Permanganate Consumption

93. WILES, R. H.
Permanganate number of pulp. P. T. J. *98*, No. 11:34-36 (Mar. 15, 1934); T. A. P. *17*:75, 146-48 (June, 1934); (10 lines in C. A. *28*:2896); (4 lines in T. S. *99*:105)
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Class 2294.5—Iodine Number

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Class 2295—Copper Number

94. KRÜGER, D. AND E. TSCHIRCH
A simple titrimetric method for determining the copper number of cellulosic materials. Zellstoff u. Papier *14*, 233-5 (1934); (24 lines in C. A. *28*:5230); (6 lines in T. S. *100*:78)
95. OGURI, S.
Photochemical reactions of cellulose. I. The effect of light on the copper number of cellulose (filter paper). J. Soc. Chem. Ind., Japan *37*, Suppl. binding, 201-2 (1934); (10 lines in C. A. *28*:5228); (12 lines in T. S. *100*:78)
(See also references 18, 19, 84, and 88)

Class 4100—Drainage Rate

(See reference 20)

Class 4130—Freeness

96. FRYKLUND, U. G. AND C. R. P. CASH
Freeness of finished paper as an aid in machine control. Pac. Pulp Paper Ind. *8*, No. *6*:3-4 (June, 1934); Paper Mill *57*, No. 27:2 (July 7, 1934); (13 lines in T. S. *100*: 78)
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Freeness Tester. U. S. pat. 1,970,521 (Aug. 14, 1934); (7 lines in T. S. *100*:78)
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Class 5000—Papers and Paper Boards

101. BAIRD, P. K.
Significant sheet properties for developing specifications

for various papers and paperboards. P. T. J. *98*, No. 2: 40-46 (Jan. 11, 1934); T. A. P. *17*:253-59 (June, 1934) (See also references 7 and 10)

Class 5214—Porosity

102. WILLIAMS, F. M.

A new electric method, formation and plano-radial porosity tester. P. T. J. *98*, No. 15: 41-43 (Apr. 12, 1934); T. A. P. *17*:70, 71, 286-88 (June, 1934); (8 lines in C. A. *28*:3898); (2 lines in T. S. *99*:94)

Class 5951—Strength (Mechanical)

103. REPORT OF THE STRENGTH TESTING COMMITTEE OF S. P. & P. C. & ENG. (Held in Berlin, Dec. 9, 1933) Papier-Fabr. *32*, No. 13:145-48 (Apr. 1, 1934); (4 lines in T. S. *99*:262)

(See also references 37, 83 and 98)

Class A (Special)—Conversion of Pulp to Test Sheet Form for Evaluation by Paper Testing Methods

104. JOHANSSON, D.

The present prospects of pulp-testing standardization. Papier-Fabr. *32*:241-5 (May 27, 1934); (4 lines in C. A. *28*:6303); (16 lines in T. S. *99*:262)

(See also references 20 and 78)

Class C (Special)—Stain Tests for Paper Making Fibers

105. CALKIN, J. B.

Microscopical Examination of Paper. P. T. J. *99*, No. 22:27-36 (Nov. 29, 1934)

106. GRAFF, J. H.

New stains for fiber evaluation. P. T. J. *99*, No. 1:31-3 (July 5, 1934); (11 lines in C. A. *28*:5660); (T. S. *99*: 264)

107. KANTROWITZ, M. S. AND R. H. SIMMONS

Rapid methods for the determination of bleached and unbleached fibers in pulp and paper. P. T. J. *98*, No. 10: 46-48 (Mar. 8, 1934); T. A. P. *17*:67-69, 162-64 (June, 1934); (18 lines in C. A. *28*:2897); (5 lines in T. S. *99*: 105)

108. SCHULZE, B. AND E. GOTHEL

Fluorescence. Microscopic investigation of fibrous materials for paper. Wochbl. Papier-fabr. *65*:111-15 (Feb. 17, 1934); Papier-Fabr. *32*:110-13 (1934); Zellstoff u. Papier *14*:93-7 (1934); (5 lines in C. A. *28*:4228); (C. A. *28*:6305); (W. P. T. R. *101*:2013); (2 column abstr. in Paper Ind. *16*:131)

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Pulp and Paper Industry Literature Review

Abstracts of Articles and Patents Compiled by the Abstracts and Bibliography Committee of the Technical Association of the Pulp and Paper Industry, A. Papineau-Couture, John F. Ohlson, C. E. Peterson and Clarence J. West, Chairman

Copies of United States Patents can be obtained from the United States Patent Office, Washington, D. C., for 10 cents each. Send currency, not stamps.

Bleaching

Study of the Process of Pulp Bleaching. M. F. Martuinov. Central Sci. Research Inst. Paper Ind. Trans. 1934, no. 1:77-111 (in Russian); C. A. 28:7007.—Study of the chemical and physical changes of cellulose in the process of single- and two-stage bleaching of sulphite pulp under different conditions led to the following observations: *Single-stage bleaching at 35°:* The most rapid consumption of active chlorine, improvement in pulp color and the reductions of lignin content, viscosity and hardness take place chiefly in the first hour of bleaching. The general impairment of the quality of bleached pulp—decreased alpha-cellulose content, higher copper number and lower strength—is sharply marked in the last third of the bleaching reaction. While rebleaching increases the whiteness of pulp, it further injures the properties of bleached pulp. Bleaching at 20° instead of at 35° reduces the calcium hypochlorite consumption by 8.5 per cent, improves the chemical and, somewhat, the mechanical properties of the pulp but increases the bleaching time by two hours. The method of adding calcium hypochlorite solution in two portions somewhat improves the properties of bleached pulp, reduces the lignin content and increases the viscosity of cellulose xanthate solutions but requires further refining of the precedure. *Two-stage bleaching* progresses more moderately, giving bleached pulp with higher constants and mechanical properties (especially in respect to the breaking resistance). An economy up to 28 per cent of calcium hypochlorite can be attained but with a corresponding increase in bleaching time. The viscosity of the cellulose xanthate solutions is increased about 1.5 times. An excess of calcium hypochlorite reduces the viscosity but somewhat impairs the constants of bleached pulp. Thus the viscosity of two-stage bleached pulp with its superior

qualities can be regulated by the addition of an excess of calcium hypochlorite. The swelling capacity of pulp bleached by the two-stage process of greater than that of the pulp obtained by simple bleaching. Treating pulp between the two stages of bleaching with dilute sodium hydroxide solutions, instead of washing with water, improves the product by a two per cent increase of alpha-cellulose content and the reduction of copper number and lignin content; the mechanical properties are practically unchanged, while the swelling capacity is lowered and the viscosity of the xanthate solutions is somewhat decreased but is considerably higher than that of the pulp obtained by the single-stage bleaching; the method may be well suited for the production of viscose pulp and refined pulp for use in the composition of rag halfstuff.—C. J. W.

Standardization of Chlorine Consumption in Bleaching of Rag Halfstuff. S. S. Kharaz and S. E. Gornostaipol'skii. Bumazhnaya Prom. 13, no. 6:50-57 (1934); C. A. 29:339.—The existing methods of laboratory control are discussed.—C. J. W.

Bleaching with Chlorine Water. Eberhardt Munds. Wochbl. Papierfabr. 65, No. 32:568-69 (Aug. 11, 1934). —The progress of bleaching with chlorine water from De Vains patent in 1912 till the present time is briefly reviewed. The advantages of chlorine water bleaching, such as lower chlorine consumption, no increase in ash content of pulp, are mentioned. Facts for the use of chlorine water bleaching and bleach combinations are given. The article is a review of a part of the book entitled "The bleaching of pulp."—J. F. O.

Hastening the Bleach Process. Eberhardt Munds. Wochbl. Papierfabr. 65, No. 38:677-78 (Sept. 22, 1934). —Calcium hypochlorite bleaching is faster than sodium hypochlorite because it is more alkaline, but the simplest way to decrease the bleaching time is by an increase in temperature. The author gives a short resume of the work done on the above problem by the many investigators.—J. F. O.

The Influence of Temperature on the Bleaching of Pulp. Herbert Rauchberg. Papier-Fabr. 32, No. 31A: 45-51 (Aug. 5, 1934). In order to obtain greater production in the manufacture of normal pulp for paper or to bleach hard pulps; the temperature may be increased to 55 to 60° C. without hesitation. With a 20° rise in bleaching temperature, the time required is decreased to one half or two thirds, depending on the bleach system. The bleach cost is increased from 9 to 12 per cent, but the increase in copper number and the decrease in yield are relatively unimportant. Conditions for ideal bleaching are given and numerous curves and data included.—J. F. O.

Chlorine Bleaching. Zellstoff u. Papier, 14, No. 12; 505-506, (December, 1934). By using liquid chlorine for the pre-bleaching, there is a saving of from 20 to 30 per cent chlorine, and by this treatment the fiber loss is less than bleaching with hypochlorite. Sulphate pulp can be bleached white with liquid chlorine, which is impossible with hypochlorite bleach. Short descriptions are given of bleaching processes using liquid chlorine.—J. F. O.

Determination of Available Chlorine in Hypochlorite Solutions By Direct Titration with Sodium Thiosulphate. Virgil A. Willson. Ind. Eng. Chem., Analyt. Edit. 7: 44-45 (Jan. 15, 1935).—Sodium thiosulphate when added to a dilute acetic acid solution of a hypochlorite, is completely oxidized to the sulphate, eight equivalents of chlorine being used per mole of sodium thiosulphate. The reaction can be used as a quantitative method for determining available chlorine in a hypochlorite. The sodium thiosulphate solution is standardized by titrating against an iodine solution of known concentration. The end point of the reaction is determined by the use of starch-potassium iodide paper an external indicator. When working at laboratory temperatures of from 20° to 25°C., the method gives results which check with those obtained when using a standard arsenite solution.—A. P.-C.

Bleaching Fibrous Cellulose. A. H. Stevens, assignee of International Paper Co. Brit. pat. 419,543 (June 12, 1933).—Chemically treated pulp, *e.g.*, straw, bagasse, esparto, and particularly kraft pulp, containing 2 to 85 per cent of water, is treated with salts of the alkali or alkaline-earth metals or with ammonia gas. It is then subjected to a vacuum of about 15 in., bleached with chlorine gas at not less than 1 atmosphere, and washed. It may then be treated with hypochlorite or dried to its original moisture content and again subjected to a vacuum and similarly treated with sulphur dioxide gas (or ozone, oxygen, carbon monoxide, etc.). Plant suitable for continuous or batch operation is described.—A.P.-C.

Decoloring of Paper Machine Broke. Frederick W. Binns. Paper Trade J. 99, No. 25:32-34 (Dec. 20, 1934). —An explanation of the action of "vasite" (zinc hydrosulphite) in decolorizing dyes, and of its application to the treatment of paper broke, indicating the nature of its action on the dyes that are more generally used in paper making.—A.P.-C.

Method of Bleaching Paper Pulp. Raymond S. Hatch assignor to International Bleaching Corp. U. S. pat. 1,982,002 (Nov. 27, 1934).—Pulp at a consistency of not over 4 per cent is circulated rapidly and continuously from a relatively quiescent body of pulp to another relatively quiescent body, and chlorine (in liquid or in gas form) is fed in regulated amounts at the point where circulation is most intense. Suitable apparatus for carrying out the operation consists of inner and outer receptacles, the inner one being open at the bottom and having a suitable propeller in the opening. The walls of the inner receptacle are preferably perforated up to a point not exceeding about one-half to three-quarters of its height, the total area of the perforations being about the same as the cross section of the inner receptacle.—A.P.-C.

Continuous Bleaching of Pulp. International Paper Co. Brit. pat. 418,133 (Feb. 16, 1933).—Paper pulp is treated with chlorine while in a reaction vessel, or in a number of vessels for multiple-stage treatment, and packed so tightly that considerable difference of pressure may be maintained at points in proximity to one another, a preferred treatment being alternate vacuum and supply of chlorine under pressure in one vessel.—A.P.-C.

Degumming and Partial Bleaching of Raw Vegetable Fibers. L. Peufaillit. Brit. pat. 412,793, (Aug. 28, 1933).—The fibers are treated with a solution of an aluminum salt, *e. g.*, sulphate, and a reducing salt containing sulphur (sodium bisulphite, sulphite, hyposulphite or metabisulphite); after washing with water, bleaching may be completed by known processes, *e. g.*, with chlorine—A. P.-C.

Bleaching Pulp. Frederick R. Seavey, Albert J. Phillips and Fredrich Olsen assignors to The Cellulose Research Corp. U. S. pat. 1,975,590, (Oct. 2, 1934).—The pulp is suspended in an aqueous salt solution and passed continuously through a suitably constructed electrolytic cell. The pulp suspension can contact freely with the anode but is prevented by a porous or perforated diaphragm from contacting with the cathode.—A.P.-C.

Process for the Bleaching of Sensitive Fibers. Hans Goldarbeiter, Vienna. Aust. pat. 137,535 (Aug. 15, 1930). The invention makes use of the fact, that the use of catalysers and oxygen carriers in combination with an oxydizing bleaching medium is a means of carrying out the splitting off of oxygen during a permissible bleaching time at

room temperatures so that the oxygen in the nascent state is taken up by the fiber and is thus used for the greatest part in the actual bleaching. J. F. O.

Process for the Continuous Preparation of Bleach Baths of Hypochlorous Acid Through the Action of Chlorine on Hypochlorite. Solvay & Cie, Brussels. Aust. pat. 138,017 (Feb. 15, 1934). Chlorine, in equivalent or nearly equivalent quantities is allowed to react uniformly and quickly with a continuous flow of alkali or earth alkali hypochlorite solutions in counter current or parallel flow; whereby the hypochlorous acid solution in corresponding quantities flows off. J. F. O.

Process for the Continuous Bleaching of Pulp. C. B. Thorne, Hawkesbury. Ger. pat. 602,156 (July 7, 1932). Pulp of low consistency is mixed with the bleaching agent and run continuously through two containers. The first container is arranged so that absorption takes place readily while in the second container the bleaching process is controlled to completion.—J. F. O.

Process and Device for the Bleaching of a Diluted Fiber Mixture, Especially Pulp. Gumal Knopp, Berlin Wilmersdorf. Ger. pat. 601,090 (Jan. 16, 1930). The fibrous mixture is continually added at one side of a centrifuge with perforated walls and removed from the opposite side. J. F. O.

Sizing

Function of Starch in Paper Sizing. Walter Obst. Gelatin, Leim, Klebstoffe 2:171-173 (1934); C. A. 28:7526. —The addition of 2-4 per cent of a special starch improves the properties of rosin as a size. This special starch should consist of 0.5 raw, untreated starch and 0.5 soluble starch. The raw starch serves as a filler to improve the physical properties of the paper and to decrease the yellowing tendency. The soluble starch serves mainly as a protective colloid to stabilize the emulsion. C. J. W.

Rosin Size. Carl Becher. Gelatine, Leim, Klebstoffe 2:176-180, 200-204 (1934); C. A. 28:7526.—The first paper is a review of the principles underlying the sizing of paper with rosin. The second paper is a brief review of the technical operation of producing rosin sizing for paper by both the open-kettle and autoclave methods. C. J. W.

Oil Sizes. Carl H. Fischer. Kunstseide 15:392-395 (1933).—A review of the patent literature. C. J. W.

Sizing

The Theory of Rosin Sizing. Rudolf Lorenz. Papier-Fabr. 31, No. 11:179-87 (March 12, 1933). The new and the old sizing methods are first related, and then factors which have an influence on rosin sizing are discussed. The resinate theory of sizing and the electrostatic theory are discussed pro and con. J. F. O.

Rosin and Rosin Size. Eduard Semmelbauer. Papier-Faber. 31, No. 11:187-89 (March 12, 1933). Considerable concerning the properties of colophony, abietic acid and related substances, and causes for poor sizing are discussed. J. F. O.

The Theory of Paper Sizing. Fritz Arledter. Papier-Fabr. 31, No. 11:189-91 (March 12, 1933). Particle size ranges from molecular dispersion to coarse dispersion or from 0.2u to 5u. The important part alum plays in the theory of sizing is related. J. F. O.

Investigation Concerning Sizing, Difficulties and the Preparation of Rosin Size. Ecke. Papier-Fabr. 31, No. 50; 667-73 (Dec. 10, 1933). The article is divided into topics as follows, white water, pulps, rosin milk, alum, the sizing process and preparation of the rosin sizing, including the Delthirna, Bewoid and Gillet methods. J. F. O.

Paper Sizing. A. van der Werth. Zellstoff u Papier 14, No. 9:356-59 (Sept., 1934). Substitute for rosin sizing that are patented are grouped and discussed briefly. These patented sizes are for consideration should Germany be at war but at present they cannot compete for economic reasons. J. F. O.

The Colloid Chemistry of Wax Sizing. Willy Seck. Papier-Fabr. 32, No. 34:373-75 (Aug. 26, 1934). Comparable tests were made on sheets sized with 2 per cent rosin, 1½ per cent rosin and ½ per cent wax, and 1 per cent rosin and 1 per cent wax with the following results: with rosin size alone the water penetration test gave 1.2, for the second 5.0 and for the last 60.0, and the smoothness test showed 11 seconds for the first, 12 for the second and 20 for the last. Methods for testing and the explanation of the results are given.—J. F. O.

Paper Sizing, from the Practical Viewpoint for the Practical Man. F. W. Althoff. Papier-Fabr. 32, No. 37:398-400 (Sept. 16, 1934). Discussion of montan wax sizing and advantages of rosin. Emulsified montan wax size possesses an unusually high uniformity, extremely fine particle size and is stable at all temperatures in hard water within a large pH range. Paper sized with montan wax dewater and drys easier on the paper machine than rosin size. J. F. O.

An Apparatus for the addition of Rosin Milk to the Beater Stock. Werner Koster, Wochbl. Papierfabr. 65, No. 40:708-09 (Oct. 6, 1934). Description of construction and operation of the above apparatus. J. F. O.

A Tentative Basis for Specifications on Wax Size. Harold Sinclair. PAPER TRADE J. 99, No. 26:27-28 (Dec. 27, 1934).—A brief discussion. A. P. C.

Paper Making. New Jersey Zinc Co., assignees of H. M. Cyr. Brit. pat. 419,582 (March 23, 1934).—The pulp is sized in the beater and 1 to 10 per cent of zinc sulphide pigment is subsequently added just prior to discharging the pulp, th epH being maintained at not less than 4.5. To prevent copper-staining, the pH during sheet formation must be not less than 5. A.P.-C.

Beater Sizing. G. H. Lafontaine. Pulp Paper Can. 36; 25-27 (Jan., 1935).—A brief discussion of theories and hypotheses on the mechanism of sizing, bringing out more particularly the merits of wax sizing.—A.P.-C.

Sizing Paper. Landwirtschaftliche Genossenschaft zur Verwertung, der Harzprodukte in Piesting, Registrierte Genossenschaft m.b.H. (Allois Allina, inventor). Fr. pat. 766,919 (July 6, 1934).—A solid, non-saponified sizing resin soluble in water is obtained by emulsifying molten colophony in water and introducing a protective colloid, such as casein, and ammonia or an ammonium salt. —A.P.-C.

The Bewoid Rosin Size Process. George F. Kennedy. PAPER TRADE J. 99, No. 26:31 (Dec. 27, 1934).—A very brief outline of the process and its advantages.—A.P.-C.

The Delthirna Sizing Process. A. E. Montgomery and T. G. Batchelor. PAPER TRADE J. 100, No. 1:25 (Jan. 3, 1935).—A very brief outline of the process and its merits.—A.P.-C.

Sizing or Waterproofing Paper or Cardboard. André Thiriet and Jacques Meyer. Brit. pat. 406,771 (March 8, 1934).—Fused paraffin or a composition containing the same is applied to a paper or cardboard strip immediately or shortly before the last drying cylinder of the machine on which the paper (or board) is manufactured. The paraffin is deposited by transfer, brushing or spraying.—A.P.-C.

The Theory of Rosin Sizing from the Standpoint of the Bewoid Process. Anon. Mon. Papeterie Belge 14: 459-464 (July-Aug., 1934).—A discussion of various theories of sizing and of the agreement therewith of the results

obtained in the Bewoid process, from which it is concluded that they are not in contradiction with the sizing theories that are based on definite and controllable facts of sizing practice.—A.P.-C.

Process for Sizing or Impregnating Paper Pulp. Aktiebolaget Defibrator. Fr. pat. 768,181 (Feb. 5, 1934).—A sizing agent, *e.g.*, paraffin wax having a melting-point of about 50 degrees C, is added to wood chips or other cellulosic material which is defibered at a temperature higher than the melting-point of the sizing agent. The pulp is diluted to the desired consistency with water at about 10° to 20°C., sheeted and dried under moderate pressure.—A.P.-C.

Emulsifiable Material, Suitable for Use in Sizing and Waterproofing Paper, From Naphtha-Insoluble Oxidized Hydrocarbons. Julius Hyman assignor to Velsical Corp. U. S. pat. 1,965,191 (July 3, 1934).—Polymers resulting from the polymerization of cracked gasoline by active contact masses such as diatomaceous earth or silica gel, are subjected in the liquid phase to the action of molecular oxygen at temperatures below about 105°C. to form oxidized polymers which are insoluble in naphtha, and the oxidized polymers are subjected to the action of a solution of an alkali metal base such as caustic soda or sodium carbonate and the emulsifiable oxidized polymers are recovered.—A.P.-C.

Paper Bonding Method and Composition. George E. Corson assignor to Clinton Corn Syrup Refining Co U. S. pat. 1,977,574 (Oct. 16, 1934).—A mixture of starch gum, sodium aluminate and aluminum sulphate is ground to pass a 100-mesh screen (and preferably so that 85 per cent passes through a 200-mesh screen), and the ground mixture is added to the paper stock, preferably subsequent to the beating operation but prior to the making of the paper web.—A.P.-C.

Sizing Paper or Cardboard with Paraffin. A Thiriet and J. Meyer. Brit. pat. 406,771 (Sept. 26, 1932).—Melted paraffin wax, with or without products assisting the sizing, is applied to the materials in the required quantity from a cylinder or regulatable speed or by means of a pump, shortly before the sheet passes to the last drying cylinder, by transfer, brushing or spraying.—A.P.-C.

Process for Sizing or Impregnating Paper or Building Boards. Akitebolaget Defibrator. Fr. pat. 768,181.—The sizing or impregnating agent is added to the raw material, either before or after defibering, and preferably before when the defibering operation is carried out at or above the melting-point of the sizing or impregnating agent.—A.P.-C.

Composition for Sizing of Paper and the Like. K. Bruckmann and Amber Size and Chemical Co., Ltd. Brit. pat. 403,095 (March 9, 1932).—Stable resin emulsions are prepared by introducing into a colloid mill, simultaneously as separate streams, molten rosin and an aqueous dispersion of a protective colloid (formalised casein, gum arabic, colloidal clay, etc., dispersed in, for instance, 0.72 per cent aqueous caustic soda).—A.P.-C.

Fillers

Clay and Opacity. R. J. Davies. Pulp Paper Can. 35:676-678 (Dec., 1934).—A brief discussion of the cause of opacity in paper, examining the connection between the characteristics of filling materials and the opacity produced, and showing that the employment of a small percentage of special loadings such as titanium white, zinc white and white lead, does not materially improve the opacity of paper beyond that produced by the same amount of china clay.—A.P.-C.

Surface Application of Titanium Pigments. William R. Willets. Paper Trade J. 100, No. 1:26-27 (Jan. 3, 1935).—A discussion of the advantages of applying titanium pigments to paper in the form of surface sizing, showing that the addition of a titanium pigment to the size does not adversely affect the beneficial characteristics bestowed by the size to the paper and that it greatly enhances the opacity, color and brightness of the paper.—A.P.-C.

Pigments for Paper Making. A. H. Whitaker. World's Paper Trade Rev. 102:1727-1732, 1844-1849 (Dec. 7, 14, 1934).—A general description and discussion of their preparation, properties and application in the coloring of paper.—A.P.-C.

Loading and Light. James Strachan. Paper Maker & Brit. Paper Trade J. 88, No. 3:TS161-162 (Sept. 1, 1934).—A brief discussion of fillers from the standpoint of their influence on the opacity of paper.—A.P.-C.

The Selection of China Clay. Anon. Mon. Papeterie Belge 14:533-534 (Sept., 1934).—A discussion of the principal factors to be considered in the selection of China clay as a paper filler.—A.P.-C.

The Antiseptic Value of Zinc and Other Pigments Toward Paper Stocks. Alga A. Smith. Paper Trade J. 99, No. 19:41-52 (Nov. 8, 1934).—Zinc pigments appreciably slow up the rate of growth of the organisms causing slime and discoloration of pulp and rag stocks in comparison with clay and titanium pigments.—A.P.-C.

Influence of Chemicals on the Retention of Fillers. I. E. Stschegloff. Zellstoff u. Papier, 14, No. 4:152-53 (April, 1934).—The results of experiments made at a Russian mill on the retention of fillers under the addition of caustic soda, alumina and water glass; are tabulated and discussed. The addition of any of the above chemicals increased the retention of the filler noticeably, which was due in no small way to the colloidal properties of the substances.—J. F. O.

Fillers and the Loading of Papers. N. Perekalsky and N. Tomaschewa. Zellstoff u. Papier 14, No. 8:319-20 (August, 1934).—Argillaceous earths gave the best retention, then talcum followed by clay, calcium carbonate and lastly gypsum. The author gives the following formula to find the retention of different weights of paper, $R_1 = R_2 \sqrt{\frac{W_1}{W_2}}$. "R" being the retention in per cent and "W" being the basis weight. With the increase in the degree of dispersion, the retention of the filler decreases, with the exception of green argillaceous earth. Talcum has the least influence on the strength of the paper and gypsum the most.—J. F. O.

Paper. Titanium Pigment Co., Inc. Brit. pat. 409,354 (April 30, 1934).—Titanium pigments are added to paper pulp or to the unfinished paper at any step in its manufacture. Other filling materials may also be added. The surface of the paper may be sized by a titanium pigment and a binder.—A.P.-C.

Manufacture of Paper. Titanium Pigment Co., Inc. Brit. pat. 409,354 (Oct. 28, 1932).—Titanium dioxide may be used either alone or in combination with other inorganic fillers as a filling or coating agent.—A.P.-C.

Paper and Process of and Apparatus for Making the Same. Noel Statham and Thomas G. Leck assignors to Industrial Chemical Sales Co., Inc. U. S. pat. 1,983,572 (Dec. 11, 1934).—Slaked lime is treated with carbon dioxide or sulphur dioxide gas to precipitate calcium carbonate or calcium sulphite and the suspension is added directly to paper stock either at the beaters or at a subsequent stage of the paper making process, the white water

from the paper machine being used for slaking the lime.—A.P.-C.

Calcium Sulphite and Paper Containing the Same. Gerald Haywood assignor to Industrial Chemical Sales Co., Inc. U. S. pat. 1,984,188 (Dec. 11, 1934).—A high-concentration milk of lime (containing preferably about 110 g. per 1.) is treated with sulphur dioxide gas at atmospheric or higher pressure to form calcium sulphite, which is used as a filler for paper.—A.P.-C.

Manufacture of Paper Loaded with Alkaline Filler. Harold R. Rafton assignor to Raffold Process Corp. U. S. pats. 1,976,743-5 (Oct. 16, 1934).—*No. 1,976,743*—Substantially unsized paper containing an alkaline filler is made by mixing the various ingredients of the furnish less the filler, and adding the latter at the wet end of the paper machine; or alternatively, mixing the various ingredients less the alum and adding the latter at the wet end of the paper machine. *No. 1,976,744*—In the production of sized paper containing an alkaline filler, alum solution is applied to the paper web, preferably at the third press or at the smoothing rolls. *No. 1,976,745*—In paper containing an alkaline filler, in order to prevent the alkaline reaction from exerting a deleterious action on the color of the paper (*e.g.*, when appreciable amounts of groundwood are used) an acid or an acid-reaching substance, in either solid, liquid or gaseous state (preferably alum solution), is applied to the web, preferably at the presses, in such quantity as to make the surface of the paper neutral or slightly acid.—A.P.-C.

Dyes

Ultramarine in the Coloring and Azuring of Paper. Maurice Dériberé. Papeterie 56:850-857, 914-921 (Aug. 25, Sept. 10, 1934).—A brief review of the preparation and properties of ultramarine, and more particularly of the effect of the pH of the stock on the retention.—A.P.-C.

An Apparatus for Adding Dyestuffs to the Beater. Wochbl. Papierfabr. 65, No. 39:693 (Sept. 29, 1934).—Description of a patented device for applying the dyestuff to the beater, specially to prevent mottling.—J. F. O.

Process and Arrangement for the Coating of Materials in the Form of Sheets or Web with Dyestuffs, Varnishes, Lacquers or Various Solutions. Raymakers Syndicate Ltd., Edinburgh, Scotland. Aust. pat. 137,925 (Feb. 15, 1934).—A means of keeping the bath of coating material at a proper level.—J. F. O.

Pulp Purification

Contribution to the Manufacture of Treated Wood Pulp Suitable for Acetylation. Fritz Ohl. Papier-Fabr. 32, No. 10:114-16 (March 10, 1934).—Short discussion of the various methods for treating pulps so as to be suitable for acetylation purposes.—J. F. O.

Pulp for Artificial Silk with Special Reference to the Manufacture of This Pulp. Eberhardt Munds. Papier-Fabr. 32, No. 23:265-270 (June 10, 1934).—The statistical position of the industry and its great importance to Germany are discussed first. The specifications for the raw materials, cotton linters or wood are given, the wood must have a high specific gravity and be uniform. Cooking conditions and the type of acid used are given, a fast cook giving a low viscosity pulp while a slow cook with lower temperatures gives a high viscosity pulp. Sodium hypochlorite is preferable to calcium in bleaching. The pulp must have certain qualities and the author believes that the very high priced high alpha will not be used for viscous silk since other grades with lower alpha content can be suitably used.—J. F. O.

Manufacture of Rayon Wood Pulp. Sigmund Wang. Rayon & Melliand Textile Monthly 15:227-230 (1934).—A general outline, with illustrations.—A.P.-C.

Production of Refined Cellulose. Francesco C. Palazzo and Fortunato Palazzo. Fr. pat. 767,071 (July 9, 1934).—Wood pulp with a high content of alkali-resisting cellulose is made by treating the material to be refined, *e.g.*, sulphite pulp, in an autoclave with a liquid containing 1 to 1.5 per cent caustic soda and 0.2 to 0.3 per cent colloidal emulsoid sodium salt, stable to alkali, at 1 to 2 atmospheres for 1 to 2 hours. Sodium soaps of higher fatty acids may be used. The treatment removes the hemicelluloses, fats and resins. Complete removal of residual lignin components is effected by a mild oxidizing treatment in 2 stages, first in a feebly alkaline and then in a feebly acid medium. Thus the pulp, at a consistency of 5 to 6 per cent, may be treated with a hypochlorite solution containing a little sodium carbonate or slaked lime, or with a dilute sodium peroxide solution, and then with a solution of hypochlorous acid or with dilute potassium permanganate containing a little sulphuric acid. The pulp is then treated with dilute sulphurous acid solution, washed and made into boards, sheets or flakes. If desired, the bleached material may be heated with dilute sodium sulphite and a little colloidal sodium salt, washed, treated with sulphurous acid and again washed. The product may be used in the manufacture of cellulose esters and ethers and of artificial fibers and films.—A.P.-C.

Drying

High Output Cylinder Dryers. Wochbl. Papierfabr. 65, No. 46:818 (Nov. 17, 1934).—Competition from the new methods of drying pulp, has caused much effort to be made in improving the ordinary drying cylinder. This article briefly describes recent devices for improving the efficiency of the cylinder dryer. In one device, the bottom row of dryers have their surface perforated with holes or slits.—J. F. O.

Yankee, Harper, and Similar Machines and the Possibilities of Their Use. Fritz Hoyer. Wochbl. Papierfabr. 65, No. 35:622-24; No. 36:639-41. (Sept. 8, 1934). By means of line drawings, the author describes eight ways for arranging dryers and presses on machines of the Yankee and Harper type. The kinds of paper best produced on each machine and pertinent operating information is given.—J. F. O.

The Vacuum-Forming Paper Machine. A. N. Russell. Paper Maker & Brit. Paper Trade J. 88, No. 2: TS151-158; No. 3: TS175 (Aug., Sept., 1934).—A description of the Millspaugh machine, with a discussion of its present field and possible future applications.—A.P.-C.

The Yankee Machine. H. D. Banta. Paper Ind. 16: 566-567 (Nov., 1934).—A brief outline of the development of the modern Yankee machine and of the chief operating difficulties peculiar to this type of paper machine.—A.P.-C.

Factors Governing Heat Transfer Through Drier Shells. F. C. Stamm. Paper Trade J. 100, No. 2; 40-42 (Jan. 10, 1935).—A discussion with the variables affecting heat transfer in paper machine driers, the most important being the accumulation of air within the drier and the percentage of moisture in the sheet leaving the wet end of the paper machine.—A.P.-C.

Drainage of Paper Driers. H. R. Masters. Paper Trade J. 99, No. 17: 43-46 (Oct. 25, 1934).—A brief discussion of the drainage of driers as affecting the performance of the driers and bringing out the advantages of the Coe drainator system as compared with methods now in general use.—A.P.-C.

Cotton Drier Felts. Thomas Hindle, Sam Lord and Scapa Dryers, Ltd. Fr. pat. 760,882.—In order to prolong the life of the felt, it is impregnated with an acid-neutralizing substance (*e. g.*, slaked lime or soda ash) which neutralizes the free acidity due to alum.—A.P.-C.

Drier for Boards. Jean Lamassiaude and Etablissements Rouchayd et Lamassiaude. Fr. pat. 759,923.—The wet board is delivered on to an endless metal conveyor which passes around two rolls that are preferably heated in order to raise the temperature of the conveyor. The latter passes through a vacuum box in which are preferably located suitable heating means.—A.P.-C.

Drying of Cellulosic or Other Fibrous Material. C. F. Brodin. Brit. pat. 417,168 (Dec. 21, 1933).—The material in the form of webs or sheets, especially paper, board, carton, etc., is passed between pressing rolls while carried on a rubber-sponge web, with or without an intermediate porous cloth; alternatively, the rolls may consist wholly or partly of rubber-sponge.—A.P.-C.

Process for the Drying of Raw Materials for Paper, Such as Cellulose, Wood Pulp and Similar Materials. Gertrud Kienzle, Bruck. Aust. pat. 137,585 (Jan. 15, 1934).—The material in the form of a web or sheets is perforated across its entire width by means of pegs, and the material is then led over drying cylinders in combination with forced air circulation through the perforations.—J. F. O.

Arrangement on Drying Cylinders for the Drying of Webs of Materials. E. F. Sundstrom, Sundsvall, Norrviken, Sweden. Swed. pat. 80,663 (Feb. 3, 1931).—The surface of the cylinder is provided with open cells.—J. F. O.

Process for the Manufacture of Running Cloths for Paper, Board and Pulp De-watering Machines. Eduard V. Asten. Hauset, Belgium. Ger. pat. 602,753 (Sept. 2, 1932).—A system of weaving for greater water removal.—J. F. O.

Drying Arrangement for Flat Material, Especially for Board. Benno Schilde, Maschinenbau, A. G. Hersfeld. Ger. pat. 602,615 (Sept. 12, 1933).—J. F. O.

Dryer Installation for Paper, Board and Pulp. Walter Kapp, Bad Homberg. Ger. pat. 600,562 (April 8, 1932).—System of piping the steam to the drying cylinders.—J. F. O.

Process for Drying in Which the Material is Subjected to the Action of a Stream of Air or Drying Gases. I. G. Farbenindustrie Akt. Ges., Frankfurt A. M. Ger. pat. 589,439 (Nov. 3, 1931).—It has been found that the drying can be hastened if the pressure of the air is periodically changed.—J. F. O.

Dryer and Steam Chamber for Wood. Hans Albertz, Bad Godesberg. Ger. pat. 598,701 (March 31, 1933).—System of the introduction and directing of the drying air into the chamber.—J. F. O.

Sheet Driers for Binder's and Fiber Board. Curt Weil. Paper Industry 16:630-633 (Dec., 1934).—A brief outline of the development of continuous board sheet driers.—A.P.-C.

Analytical and Testing Methods

A New Dry Distillation Apparatus. August Noll. Papier-Fabr. 32, No. 34:369-70 (Aug. 26, 1934).—Description of the use, construction and operation of an apparatus for the dry distillation of certain products encountered in the cellulose industry—J. F. O.

Relation Between the Sulphur Content and Ash Content of Sulphite Pulp and a New Method for the Determination of Sulphur. Franz Schutz and Wilhelm Klauditz. Papier-Fabr. 31, No. 11:123-27 (March 12, 1933).—Since the mineral matter in pulps change considerably during ignition, a method is proposed for the determination of sulphur by completely decomposing the cellulose fibers by means of chlorine gas and a 50 percent solution of sodium hydroxide, removal of the rosin and other constituents and then precipitation of the sulphur as barium sulphate.—J. F. O.

The Glass Electrode and Its Possible Application in the Paper Industry. G. F. Davidson. Paper Maker & Brit. Paper Trade J. 88, No. 2:TS150-152 (Aug., 1934); Paper Trade J. 88, No. 24:46-48 (Oct. 13, 1934).—A brief description of the glass electrode and its use, pointing out its advantages and suggesting some possible applications in the paper industry.—A.P.-C.

Methods for Measuring pH. Kiessig. Papier-Fabr. 31, No. 52:701-02 (Dec. 27, 1933).—Several methods are described for measuring the pH.—J. F. O.

The Latest Illuminating Microscopes. F. Hauser. Zellstoff u. Papier, 14, No. 11:442-43 (Nov., 1934).—The construction of the illuminating microscope made by Carl Zeiss is described with the aid of drawings, and its application in various fields, especially the paper industry where it can be advantageously used in the investigation of fibers, sizing, fillers, etc.—J. F. O.

Analyzing Color According to Its Psychological Attributes. E. W. Melson. Paper Trade J. 99, No. 15: 27-29 (Oct. 11, 1934).—An explanation of the Munsell color system, with a brief description of the new Bausch and Lomb color analyser which utilizes the Munsell color discs.—A. P.-C.

Sheet-Forming and Drying Apparatus and Method for Making Test Sheets of Paper. Bruno Possanner von Erhenthal. Brit. pat. 409,548 (May 3, 1934).—The apparatus consists of a round sheet mold, vacuum operated, and a special drier. The sheet, on the wire and backing plate, is transferred directly from the mold to the drier. The cover of the drier is hollow, for water or steam heating, and its lower portion is an elastic membrane. After closing the drier, a 730-mm. vacuum is applied, forcing the membrane down into the sheet, which is thus pressed and dried in one operation. A standard 75 g. per sq. m. sheet is dried in 4 min. ready to condition and test.—A. P.-C.

TAPPI Pulp Specifications Committee Progress Report. H. C. Schwalbe. Paper Trade J. 99, No. 23: 35-42 (Dec. 6, 1934).—Results are given in detail and discussed of the tests of two sulphite pulps of widely different and unusual characteristics carried out in 22 laboratories. The date showed that the per cent ratios referred to in the previous report (Paper Trade J. 98, No. 19, 36-39 May 10, 1934) could not be calculated from results obtained on only 2 pulps, because in such a case the errors in the original testing method are not sufficiently eliminated and there are no means of finding the sensitiveness of any specific testing method to differences in pulp properties.—A. P.-C.

Pulp Tester. Arthur B. Green. U. S. pat. 1,985,321 (Dec. 25, 1934).—A tester by means of which the freeness or slowness of pulp can be determined by merely immersing the instrument in the stock (*e.g.,* in the beater) and reading the desired value directly on a graduated stem, consists essentially of a vertical, cylindrical screen inside which is a coaxial imperforate metal tube, open at the bottom and provided at the top with a detachable cap formed with perforations for the passage of air. Mounted to rise and fall in the tube is a "sinker" comprising a suitably shaped resistance element or head attached near the bottom of a vertical graduated rod or stem, which projects freely through a central guiding aperture in the cap. On immersing the instrument in paper stock, the stem first rises and then falls, and the freeness (or slowness) is indicated by the reading on the stem when the latter is stationary.—A. P.-C.

Remarks Concerning David Johansson's Article Entitled "Comparison Between German and Swedish Methods for the Determination of the Degree of Cooking of Sulphate and Sulphite Pulps. Val Hottenroth.

Papier-Fabr. 32, No. 19:221-22 (May 13, 1934).—Polemic on certain points between the two authors. Hottenroth says tha Johansson is wrong when he says that the permanganate consumption is greater with sulphate pulp than with sulphite pulp with the same lignin content, but not so with the chlorine consumption.—J. F. O.

Comparison Between the German and Swedish Methods for the Determination of the Degree of Cooking of Sulphite and Sulphate Pulps. Papier-Fabr. 32, No. 23: 270-72 (June 10, 1934).—More concerning the debate on the above subject between the author, David Johansson, and Dr. Hottenroth; both having a say in this article.—J. F. O.

Optical Studies of Pulps. (Influence of Beating, Loading, Cooking and Finish). Hans Ress. Papier-Fabr. 32, No. 33:361-67; No. 35:377-84; No. 36:385-92; No. 38:401-07; No. 39:409-414 (1934).—The exhaustive research on such a broad subject gives these articles the value of a reference book. The author divides the investigation as follows; general, physical factors, (a) light and heat, (b) mechanical treatment, chemical factors. 1. Studies over the influence of the beating process of pulp on the optical properties, introduction, the preparation of the test samples, the carrying out of the photometric experiments, (A) brightness measurement, (B) measurement of the transmitted light, the meaning of hydration and the hypothetical explanation of hydration during beating, the change in optical properties under the influence of hydration. Investigation of fluorescence showed that with an increase in hydration there was a greater color intensity of the fluorescent light. 2. Studies over the influence of various fillers on the optical properties of pulps, including brightness, opacity and fluorescence.—J. F. O.

Fluorescence Microscopic Investigation of the Fiberous Materials for Paper. B. Schulze and E. Gothel. Papier-Fabr. 32, No. 10:110-114 (March 10, 1934).—By means of the fluorescence microscope and certain basic, acid or substantive dyes, the various kinds of fibers are distinguished, as well as their degree of cooking.—J. F. O.

Committee for Fiber Analysis of the German Technical Association of the Pulp and Paper Industry. Papier-Fabr. 32, No. 10:109-10 (March 10, 1934).—Pulps are classified from very soft to very hard by means of their chlorine number, permanganate number and lignin content.—J. F. O.

Micrography in the Printing Industry. Rolf Rau. Papier 37:903-908 (Oct., 1934).—Micrographs of sections of various sorts of printed paper are shown to explain the mechanism of the drying of inks on the various sorts of paper.—A.P.-C.

Maintenance, Calibration and Use of Paper Testing Instruments. F. T. Carson. Paper Industry 16: 621-626 (Dec., 1934).—A brief discussion of the chief points in the maintenance, calibration and operation of the following common paper testing instruments: psychrometer, ream weight balance, dial micrometer, tensile strength tester, bursting tester, tearing tester, folding endurance tester.—A.P.-C.

Impermeability of Transparent Papers to Water. G. Tocco and E. Cerbaro. Boll. R. Staz. Sperim. Ind. Garta 5:166-170 (1933).—An aluminum cylindrical box of 10 sq. cm. section, containing water, is closed at the top with the paper and placed at a definite temperature in a space containing a dehydrating agent. Loss of water gives the permeability to moisture or, if the box is inverted, the permeability to water. "Impermeable" viscose papers are somewhat more permeable to water vapor than "acetate" films, but the two differ little in permeability to water; the acetate films are, however, less liable to deformation. Cellulose nitrate and benzoate show marked resistance to water vapor, especially when containing plasticizer and resin. Data are given for many products.—A.P.-C .

The Use of Ultra-Violet Light as a Sensitive Method for the Measurement of the Degree of Water Resistance of Paper. Julius Grant. J. Soc. Chem. Ind. 53: 349-350T (Nov. 2, 1934).—Existing methods are criticized. Measurement of the rate of penetration of pure water gives most reliable results, but, in common with the ferric chloride-tannic acid methods, has an indefinite end-point involving an error of more than 10%. The paper surface is therefore sprinkled with a dry 0.5% mixture of Rhodamine-6G in icing sugar, and the specimen floated on water, when a sharp end-point is obtained in ultra-violet light by the appearance of a golden fluorescence as soon as the dye dissolves in the transuded water (accuracy 5%). A possible application to the detection of artificial watermarks is indicated.—A.P.-C.

Ultra-Violet Light As a Means of Detecting Artificial Watermarks. J. Grant. Analyst 59: 749-750 (Nov., 1934).—Artificial watermarks produced by impression on the nearly dried paper with a rubber stamp are differentiated from the genuine by sprinkling the area with a mixture of 100 g. of dry icing sugar and 0.5 g. of concentrated Rhodamine-6G, placing the paper in a dish of water, and examining in filtered ultra-violet light. The design of genuine watermarks is marked for a few seconds by a bright golden fluorescence, which is absent in the case of artificial watermarks.—A.P.-C.

Certified Stains for Fiber Differentiation. John B. Calkin. Paper Trade J. 100, No. 3:35 (Jan. 17, 1935).—Attention is directed to the importance of using standard dyes where possible, and in the case of a new stain to provide others trying out the stain with some of the same lot of dye.—A.P.-C.

Opacity Standards. Deane B. Judd. J. Res. Nat. Bur. Standards 13, 281-291 (Sept., 1934); Paper Trade J. 100, No. 1:28-32 (Jan. 3, 1935).—Standards made of opal glass for use in determining the opacity of paper are described; the theory of their application is worked out, and results of tests are given. Results obtained by the TAPPI method are evaluated.—A.P.-C.

Microscopical Examination of Paper. John B. Calkin. Paper Trade J. 99, No. 22:27-36 (Nov. 29, 1934).—A fairly detailed description of methods of microscopical examination of paper, dealing with fibers, specks or spots, and differentiation of starches, intended to serve as a guide and basis for the development and establishment of standard methods. Bibliography of 62 references.—A.P.-C.

Basis Weight of Paper. Anon. Paper Trade J. 99, No. 21:42 (Nov. 22, 1934).—A tentative revision of the TAPPI standard method.—A.P.-C.

Conditioning Paper for Testing. Anon. Paper Trade J. 99, No. 21:38 (Nov. 22, 1934).—A tentative revision of the TAPPI standard method.—A.P.-C.

Sized Paper Testing Apparatus. A. H. Stevens, from Sorg Paper Co. Brit. pat. 403,304 (June 15, 1933).—Penetration of water through the paper is made to close the grid circuit of a thermionic valve and indirectly to cause a drop in the plate current (indicated by a milliammeter). The paper is laid on a dry metal plate and water is applied to the other side by an absorbent pad fitted into an inverted jar containing water. If the dry paper is a conductor it is separated from the plate by a thin perforated film of insulating material.—A.P.-C

IMPORTS OF PAPER AND PAPER STOCK

NEW YORK, BOSTON, PHILADELPHIA AND OTHER PORTS

NEW YORK IMPORTS

WEEK ENDING AUGUST 31, 1935

CIGARETTE PAPER

Champagne Paper Corp., Ile de France, Havre, 330 cs.; H. H. Strauss, Ile de France, Havre, 173 cs.; ———, Pulaski, Gdynia, 191 cs.

WALL PAPER

W. H. S. Lloyd & Co., American Farmer, London, 4 lbs., 1 cs.; A. W. Fenton, Inc., Majestic, Southampton, 2 cs.; F. J. Emmerich, Hamburg, Hamburg, 1 cs.; S. K. Lonegren, Gripsholm, Gothenburg, 5 bxs.

NEWSPRINT

Jay Madden Corp., Hallaren, Kotka, 301 rolls; H. Reeve Angel & Co. Inc., Hallaren, Kotka, 301 rolls; Wilkinson Bros. & Co. Inc., Hallaren, Kotka, 60 rolls; Gilman Paper Co., Hallaren, Hallstavik, 510 rolls; Brooklyn Daily Times, Blankaholm, Norrkoeping, 325 rolls; Parsons & Whittemore, Inc., Blankaholm, Gothenburg, 156 rolls; Jay Madden Corp., Blankaholm, Viipuri, 303 rolls; N. Y. Evening Journal, Porsanger, Quebec, 5,456 rolls; Parsons & Whittemore, Inc., Gripsholm, Gothenburg, 304 rolls; Lunham & Reeve, Inc., Scanpenn, Kotka, 224 rolls; H. Reeve Angel & Co. Inc., Scanpenn, Kotka, 186 rolls.

PRINTING PAPER

Japan Paper Co., American Farmer, London, 1 cs.

PACKING PAPER

Chas. Happel, Inc., Volendam, Rotterdam, 6 cs.

WRAPPING PAPER

Blauvelt Wiley Paper Manfg. Co., Gripsholm, Gothenburg, 69 rolls; Guaranty Trust Co., Gripsholm, Gothenburg, 756 rolls; American Express Co., Georgic, London, 1 ble.; Walker Goulard Plehn Co., Scanpenn, Helsingfors, 641 rolls.

KRAFT PAPER

Lunham & Reeve, Hallaren, Norrkoeping, 20 rolls.

DRAWING PAPER

H. Reeve Angel & Co. Inc., American Farmer, London, 2 cs.; Richart Color Co., Tonsbergfjord, Marseilles, 4 cs.

FILTER PAPER

H. Reeve Angel & Co. Inc., American Farmer, London, 9 cs.; H. Reeve Angel & Co. Inc., Majestic, Southampton, 9 cs.; P. H. Petry & Co., Hamburg, Hamburg, 40 bls.

SURFACE COATED PAPER

P. Puttman, Westernland, Antwerp, 5 cs.; Gevaert Co. of America, Westernland, Antwerp, 20 cs.

METAL COATED PAPER

K. Pauli Co., Hamburg, Hamburg, 1 cs.

BARYTA COATED PAPER

Globe Shipping Co., Bremen, Bremen, 35 crates, 1 cs.

BASIC PAPER

Globe Shipping Co., Bremen, Bremen, 22 crates.

PHOTO PAPER

J. J. Gavin, Majestic, Southampton, 9 cs.; American Express Co., Hamburg, Hamburg, 70 cs.

DECALCOMANIA PAPER

B. F. Drakenfeld & Co., American Importer, Liverpool, 6 cs.

DECALCOMANIAS

Sellers Transportation Co., Bremen, Bremen, 15 cs.; Phoenix Shipping Co., Bremen, Bremen, 3 cs.

TRANSFER PAPER

Atlantic F'd'g. Co., Hamburg, Hamburg, 23 bls.

TRANSFER PICTURES

Rohner Gehrig & Co., Bremen, Bremen, 3 cs., 4 bls.

TISSUE PAPER

Dingelstedt & Co., American Importer, Liverpool, 4 cs.; Van Oppen & Co., Pr. Garfield, Genoa, 6 cs.

TRACING PAPER

Titan Shipping Co., Hamburg, Hamburg, 11 cs.

PASTE BOARD

———, Bremen, Bremen, 73 cs.

PAPER BAGS

J. B. Mast & Co., Rex, Genoa, 8 cs.

MISCELLANEOUS PAPER

Chase National Bank, Blankaholm, Gothenburg, 62 bls., 277 rolls; ———, Noto Maru, Kobe, 7 cs.; Iwai & Co., Noto Maru, Kobe, 20 cs.; U. S. Envelope Co., Noto Maru, Yokohama, 8 cs.; Steiner Paper Corp., Hamburg, Hamburg, 12 cs.; National Pulp & Paper Co., Inc., Gripsholm, Gothenburg, 669 rolls, 26 bdls.; Lunham & Reeve, Gripsholm, Gothenburg, 25 bls., 3,035 rolls; Blauvelt Wiley Paper Manfg. Co., Gripsholm, Gothenburg, 10 bls.; Kraemer & Co., Gripsholm, Gothenburg, 124 bls.; The Borregaard Co. Inc., Gripsholm, Gothenburg, 187 rolls; State National Bank, Gripsholm, Gothenburg, 73 bls., 1,221 rolls.

RAGS, BAGGINGS, ETC.

Chase National Bank, Westernland, Antwerp, 159 bls. jute waste; A. H. Searle, American Farmer, London, 27 bls. rags; R. F. Downing & Co., American Farmer, London, 275 bls. rags; Castle & Overton, Inc., City of Flint, Dundee, 62 bls. paper stock; F. Stern, Tonsbergfjord, Marseilles, 61 bls. linsey garments; ———, Tonsbergfjord, Barcelona, 36 bls. cotton waste; Irving Trust Co., Tons-

bergfjord, Barcelona, 89 bls. bagging; Bank of N. Y. Trust Co., Tonsbergfjord, Barcelona, 49 bls. bagging; Bank of N. Y. Trust Co., Tonsbergfjord, Barcelona, 101 bls. paper stock; Bank of N. Y. Trust Co., Tonsbergfjord, Valencia, 281 bls. rags; Irving Trust Co., Tonsbergfjord, Valencia, 261 bls. rags; E. J. Keller Co. Inc., Pr. Garfield, ———, 263 bls. rags; E. J. Keller Co. Inc., Pr. Garfield, ———, 48 bls. bagging; Chase National Bank, Hamburg, Hamburg, 96 bls. jute waste; ———, California, Glasgow, 82 bls. rags; Irving Trust Co., California, Glasgow, 43 bls. paper stock; Chase National Bank, California, Glasgow, 95 bls. old cottons; G. A. Henshaw & Sons, Pulaski, Gdynia, 177 bls. rags; Castle & Overton, Inc., Argentino, Beunos Ayres, 52 bls. bagging; Castle & Overton, Inc., Argentino, Buenos Ayres, 184 bls. rags.

OLD ROPE

Banco Coml. Italiane Trust Co., Lucia C., Trieste, 105 rolls; Chase National Bank, American Farmer, London, 42 coils.

CASEIN

———, Southern Cross, Buenos Ayres, 100 bags.

CHINA CLAY

English China Clays Sales Corp., N. Y. City, Fowey, 394 tons, 12 cwt.; Moore & Munger, N. Y. City, Fowey, 858 tons, 7 cwt.

WOOD PULP

Lagerloef Trading Co., Hallaren, Helsingfors, 1,478 bls. sulphite; Jay Madden Corp., Hallaren, Kotka, 530 bls. sulphate; Johaneson Wales & Spårre, Inc., Hallaren, Gothenburg, 118 bls. sulphate; Price & Pierce, Ltd., Hallaren, Gothenburg, 500 bls. dry pulp; J. Andersen & Co., Hallaren, Gothenburg, 375 bls. sulphite; Price & Pierce, Ltd., Blankaholm, Gothenburg, 500 bls. dry pulp; D. M. Hicks, Inc., Blankaholm, Gothenburg, 210 bls. sulphite; Johaneson Wales & Sparre, Inc., Blankaholm, Gothenburg, 112 bls. sulphate; M. Sone, Blankaholm, Gothenburg, 406 bls. wood pulp; Perkins Goodwin & Co., Blankaholm, Gothenburg, 578 bls. sulphate; Gottesman & Co. Inc., Blankaholm, Gothenburg, 1,270 bls. sulphite; Castle & Overton, Inc., Hamburg, Hamburg, 140 bls. wood pulp, 28 tons; Perkins Goodwin & Co., Gripsholm, Gothenburg, 331 bls. tissue pulp; Lagerloef Trading Co., Scanpenn, Helsingfors, 3,906 bls. sulphite, 655 tons; Lagerloef Trading Co., Scanpenn, Helsingfors, 160 bls. sulphate, 26 tons; Lagerloef Trading Co., Scanpenn, Helsingfors, 520 bls. mechanical pulp, 104 tons; Lagerloef Trading Co., Scanpenn, Wiborg, 6,920 bls. sulphite, 1,308 tons; ———, Scanpenn, Gdynia, 336 bls. wood pulp, 50 tons.

WOOD PULP BOARDS

———, Blankaholm, Viipuri, 300 rolls; Northern Trading Corp., Hamburg, Hamburg, 336 bls.; Lagerloef Trading Co., Scanpenn, Wiborg, 145 bls.; H. Fuchs & Son, Gripsholm, Gothenburg, 29 crates.

NEWARK IMPORTS

WEEK ENDING AUGUST 31, 1935

H. G. Craig Co. Inc., Donpaco, Donnacona, 311 rolls; H. G. Craig Co. Inc., Donnacona I, Donnacona, 548 rolls.

ALBANY IMPORTS

WEEK ENDING AUGUST 31, 1935

Bulkley Dunton & Co., Heddernheim, ———, 1,125 bls. wood pulp.

PORTLAND IMPORTS

WEEK ENDING AUGUST 31, 1935

Bulkley Dunton & Co., Cold Harbor, ———, 2,500 bls. wood pulp.

BOSTON IMPORTS

WEEK ENDING AUGUST 31, 1935

———, Pr. Garfield, Alexandria, 102 bls. rags; Oxford University Press, Scythia, Liverpool, 11 cs. paper; Bulkley Dunton & Co., Cold Harbor, ———, 390 bls. wood pulp; Bulkley Dunton & Co., Argosy, ———, 750 bls. wood pulp; Bulkley Dunton & Co., Sandhamn, ———, 6,666 bls. wood pulp; M. Sone, Kelkheim, Stocka, 500 bls. wood pulp.

NEW LONDON IMPORTS

WEEK ENDING AUGUST 31, 1935

Bulkley Dunton & Co., Simon von Utrecht, ———, 3,000 bls. wood pulp.

PHILADELPHIA IMPORTS

WEEK ENDING AUGUST 31, 1935

Lagerloef Trading Co., Scanpenn, Helsingfors, 130 bls. mechanical pulp, 26 tons; J. Andersen & Co., Scanpenn, Helsingfors, 600 bls. mechanical, 101 tons; Lagerloef Trading Co., Scanpenn, 950 bls. sulphite, 156 tons; Lagerloef Trading Co., Scanpenn, Wiborg, 1,470 bls. sulphite, 248 tons; Lagerloef Trading Co., Scanpenn, Wiborg, 762 bls. mechanical, 152 tons; Lagerloef Trading Co., Scanpenn, Wiborg, 51 bls. wood pulp boards, 8 tons; J. W. Hampton Jr. & Co., Scanpenn, Kotka, 386 rolls newsprint; ———, Scanpenn, Gdynia, 170 bls. wood pulp, 25 tons; Castle & Overton, Inc., Argentino, Buenos Ayres, 45 bls. rags; Bulkley Dunton & Co., Sandhamn, ———, 875 bls. wood pulp; M. Sone, Hallaren, Gothenburg, 1480 bls. wood pulp.

BALTIMORE IMPORTS

WEEK ENDING AUGUST 31, 1935

Lagerloef Trading Co., Blankaholm, Kotka, 2,080 bls. mechanical pulp; Lagerloef Trading Co., Blankaholm, Viipuri, 130 bls. mechanical pulp; Castle & Overton, Inc., Blankaholm, Viipuri, 3,632 bls. wood pulp; Washington Post, Blankaholm, Norrkoeping, 729 rolls newsprint; Johaneson Wales & Sparre, Inc., Blankaholm, Gothenburg, 625 bls. sulphate; The Borregaard Co. Inc., Blankaholm, Gothenburg, 250 bls. chemical pulp; Perkins Goodwin & Co., Blankaholm, Gothenburg, 2,108 bls. kraft pulp; Gottesman & Co. Inc., Blankaholm, Gothenburg, 1,000 bls. chemical pulp; ———, City of Flint, Dublin, 218 bls. paper stock; ———, Noto Maru, Kobe, 130 bls. rags; Bulkley Dunton & Co., Belos, ———, 2,350 bls. wood pulp; Bulkley Dunton & Co., Heddernheim, ———, 1,125 bls. wood pulp; Bulkley Dunton & Co., Sandhamn, ———, 600 bls. wood pulp; M. Sone, City of Newport News, Hamburg, 1,050 bls. wood pulp.

NEWPORT NEWS IMPORTS

WEEK ENDING AUGUST 31, 1935

Bulkley Dunton & Co., Belos, ——— 1,500 bls. wood pulp; Bulkley Dunton & Co., Greisheim, ———, 2,810 bls. wood pulp.

MONTREAL IMPORTS

WEEK ENDING AUGUST 31, 1935

Gottesman & Co. Inc., Lagaholm, Sweden, 6,200 bls. wood pulp; Gottesman & Co. Inc., Tyrifjord, Sweden, 4,200 bls. wood pulp.

New York Market Review

Office of the PAPER TRADE JOURNAL,
Wednesday, September 4, 1935.

Conditions in the local paper market are fairly satisfactory. Demand for the various standard grades of paper was well sustained during the past few months and the customary midsummer lull has not been so much in evidence. With the Labor Day holiday out of the way the outlook for the closing months of the year is bright.

The newsprint paper market is exhibiting a stronger undertone. Manufacturing operations in the United States, Canada and Newfoundland are being maintained in sufficient volume to take care of current requirements. Stocks of newsprint at the mills are not excessive. The price situation is showing signs of improvement.

Business in the fine paper market is holding up well. Demand for book, cover, writing and ledger papers is fairly persistent. Prices are steady. The coarse paper market is in a strong position, with the most active months of the year close at hand. The various grades of paper board are beginning to move more freely.

Mechanical Pulp

The ground wood pulp market continues rather quiet. Production in North America and abroad is practically keyed to consumption, with the result that the statistical position of the industry is fairly sound. Prices of both domestic and foreign grades of mechanical pulp are generally holding to schedule.

Chemical Pulp

Steadiness prevails in the chemical pulp market. Demand for kraft pulp continues brisk and quotations firm, due to the fact that offerings are limited. Bleached sulphite and unbleached sulphite are also displaying strength, while other grades remain unchanged. Prices are maintained at formerly quoted levels.

Old Rope and Bagging

The old rope market is showing signs of improvement. Demand for foreign and domestic old manila rope is slightly better than of late. More mill interest is developing in mixed strings. The bagging market is stronger. Gunny bagging is steady. Scrap bagging and roofing bagging are decidedly firmer.

Rags

Paper mill interest in the domestic rag market is more in evidence. Demand for new cotton rags is improving. No. 1 white shirt cuttings are in good request, both for home and foreign consumption. New blue overall cuttings are also displaying strength. The roofing rag market is buoyant, with quotations inclined to rise.

Waste Paper

Sentiment in the paper stock market is more optimistic. Board mill demand for the lower grades of waste paper is improving, especially for strictly folded news and No. 1 mixed paper. The higher grades of paper stock continue steady. Hard white envelope cuttings and hard and soft white shavings are going forward in good volume.

Twine

Trading in the local twine market during the past week was moderately active. The outlook for the next few months, however, is encouraging and the year should close with a satisfactory increase in sales volume over the preceding twelve months. No radical price changes have been reported, despite the usual keen competition.

Northwest Leases Large Quarters

Robert C. Osborn, Eastern sales manager for the Northwest Paper Company, has leased large quarters in Rockefeller Center for the Eastern sales office of the company. Northwest is one of the many Weyerhaueser concerns and is rated as a major pulp, paper and lumber specialties producer.

After three years' occupancy of quarters at 41 Park Row, the sales office has just been moved to the new space on the 31st floor of the International Building.

Previously to his recent appointment as Eastern sales manager of the Northwest organization, Mr. Osborn was engaged for thirty years in supplying paper to the various departments of the United States Government as an independent agent.

Northwest manufactures six different grades of pulp totaling approximately 700,000 pounds daily and produces over 500,000 pounds of paper every twenty-four hours. The paper mills are located at Cloquet and Brainerd, Minnesota, with main offices also at Cloquet. Branch offices have been established in Chicago, St. Paul, Minneapolis, St. Louis, and San Francisco. A Washington office will be opened in the near future.

H. C. Hornby is president of the concern, and W. H. Kenety is vice president and general manager.

Harding-Jones Not To Increase Capacity

The Harding-Jones Paper Company, Excello, Ohio, writes: "We have noticed, in a recent issue of the PAPER TRADE JOURNAL, a statement to the effect that the new air drying system we are installing here will increase our capacity six times.

"Before every other rag content mill in the country 'lands on our neck,' we hasten to correct this statement. The facts are as follows:

"We are spending about $40,000.00 to install the latest and most modern type of air drying equipment, together with the supplementary apparatus necessary. No increase in our capacity is contemplated. All of our grades will still receive the careful and painstaking attention which they have always required."

Brimstone Brevities

An interesting new house organ is being sent to pulp and paper mills by the Freeport Sulphur Company, 122 East 42nd street, New York, N. Y., entitled "Brimstone Brevities."

It has for its objective, the stimulation of interest in sulphur and its many uses. Copies may be obtained on request.

Miscellaneous Markets

Office of the PAPER TRADE JOURNAL,
Wednesday, September 4, 1935.

BLANC FIXE.—Business in the blanc fixe market is moderately active. Prices are holding to schedule. The pulp is quoted at from $42.50 to $45 per ton, in bulk; while the powder is selling at from 3½ to 3¾ cents per pound, in barrels, at works.

BLEACHING POWDER.—The position of the bleaching powder market is practically unchanged. Contract shipments are going forward in fair volume. Prices continue steady. Bleaching powder is quoted at from $1.90 to $2.15 per 100 pounds, in drums, at works.

CASEIN.—The casein market is firm. Domestic standard ground is quoted at 11 and finely ground at 11½; French standard ground at 12¼ and finely ground at 12¾; Argentine standard ground at 12½ and finely ground at 13 cents per pound, all in bags, car lot quantities.

CAUSTIC SODA.—Demand for caustic soda is fairly persistent. The contract movement is normal. Prices remain unchanged. Solid caustic soda is quoted at from $2.60 to $3.10; while the flake and ground are selling at from $3 to $3.05 per 100 pounds, in drums, at works.

CHINA CLAY.—The china clay market is fairly active. Prices are generally holding to schedule. Imported china clay is quoted at from $13.50 to $21 per ton, ship side; while domestic paper making clay is selling at from $6.50 to $12 per ton, at mine.

CHLORINE.—Steadiness prevails in the chlorine market. Demand from the paper mills is brisk for the season. The contract movement is normal. Chlorine is quoted at from $2 to $2.40 per 100 pounds, in tanks, or multi-unit cars, in ton lots, or over, at works.

ROSIN.—The rosin market is stronger. Paper making gum rosin is quoted at $4 and wood rosin at $4.20 per 280 pounds, gross weight, in barrels, at Savannah. Seventy per cent rosin size is selling at $2.45 per 100 pounds, in tank cars, at works.

SALT CAKE.—Some improvement is noticed in the salt cake market. Prices are steady. Salt cake is quoted at from $12 to $13; and chrome salt cake at from $11 to $12 per ton, at works. Imported salt cake is selling at from $12 to $13 per ton, on dock.

SODA ASH.—The soda ash market is exhibiting a strong undertone. Contract shipments are moving in good volume for the season. Quotations on soda ash, in car lots, at works, per 100 pounds, are as follows: in bulk, $1.05; in bags, $1.20; and in barrels, $1.50.

STARCH.—Paper mill demand for starch is mainly along routine lines. Prices are holding to previously quoted levels. Special paper making starch is quoted at $3.59 per 100 pounds, in bags; and at $3.86 per 100 pounds, in barrels, at works.

SULPHATE OF ALUMINA.—No radical changes transpired in the sulphate of alumina market. Prices are holding to schedule. Commercial grades are quoted at from $1.35 to $1.50; while iron free is selling at from $1.90 to $2.05 per 100 pounds, in barrels, at works.

SULPHUR.—The sulphur market is steady. Sulphur is quoted at $18 per long ton on orders of 1,000 tons, or over, on yearly contracts; and at $20 per ton on any smaller quantity over that period. On spot and near by car loads, the quotation is $21 per ton.

TALC.—Trading in the talc market is rather light at present. Prices are generally holding to schedule, without difficulty. Domestic talc is quoted at from $16 to $18 per ton, at eastern mines; while imported talc is selling at from $23 to $30 per ton, on dock.

Market Quotations

Paper

(F. o. b. Mill)

Ledgers	6.50	@	—
Bonds	6.00	@	—
Index	6.00	@	—
Writings—			
Extra Superfine	6.50	@	—
Superfine	6.25	@	—
Tub sized	5.75	@	—
Engine sized	5.50	@	—
Book, Cased—			
S. & S. C.	5.35	@	5.75
S. & S. C. Litho.	5.60	@	6.00
M. F.	5.10	@	5.50
Coated and Enamel	5.90	@	6.55
Coated Litho	5.90	@	6.55
Tissues—Per Ream—			
White No. 1	.82½	@	.85
White No. 2	.67½	@	—
Anti-Tarnish M. G. only	1.00	@	—
Colored	.85	@	—
Kraft	.70	@	—
Manila	.67½	@	.70
Manila—			
No. 1 Jute	9.00	@	9.25
No. 2 Jute	7.75	@	8.50
No. 1 Wood	4.00	@	5.25
No. 2 Wood	3.50	@	4.00
Butchers	4.00	@	4.50
Fibre Papers—			
No. 1 Fibre	4.25	@	5.50
No. 2 Fibre	4.00	@	4.75
Common Bogus	1.50	@	3.00
Screenings	2.50	@	3.50
Glassine—			
Bleached	.11	@	—
Unbleached	.09	@	—

(The following Quotations are Delivered New York)

News, per ton—			
Roll, contract	40.00	@	—
Rolls, spot	40.00	@	—
Sheets	45.00	@	—
Kraft—			
No. 1 Northern	4.12½	@	4.75
Standard	4.00	@	—
Southern	3.87½	@	—
Boards—per ton—			
News	32.50	@	35.00
Chip	32.50	@	35.00
Sgl. Mla. Ll. Chip	45.00	@	47.50
Jute Lined Chip	45.00	@	47.50
White Patent Coated	55.00	@	57.50
Binders Boards	67.00	@	75.00

Mechanical Pulp

(On Dock, Atlantic Ports)

No. 1 Imported—			
Moist	21.00	@	22.00
Dry	21.00	@	22.00
(F. o. b. Mill)			
No. 1 Domestic and Canadian	18.00	@	24.00

Chemical Pulp

(On Dock, Atlantic, Gulf and West Coast Ports)

Bleached Sulphite (Domestic and Foreign)—			
Division 1	2.60	@	—*
Division 2	2.55	@	—*
Division 3	2.50	@	—*
Prime Qualities—			
Class 1. All Prime Easy Bleaching	2.05	@	—*
Other Than Easy Bleaching—			
Class 2. Higher than Standard	2.00	@	—*
Class 3, Standard	1.95	@	—*
Class 4, Lower than Standard	1.90	@	—*
(On Dock, Atlantic Ports)			
Kraft No. 1	1.70	@	1.80
Kraft No. 2	1.50	@	1.60
(F. o. b. Pulp Mill)			
Kraft Domestic	1.70	@	2.35
(Delivered)			
Soda Bleached	2.50	@	—

* Add 60 Cents per short ton, dock charges, for Albany; $2.00 for Lake Ports East and $3.00 for Lake Ports West of Mackinac Straits.

Domestic Rags

New Rags

(Prices to Mill f. o. b. N. Y.)

Shirt Cuttings—			
New White, No. 1	6.00	@	6.25
Silesias No. 1	4.50	@	4.75
New Unbleached	6.50	@	6.75
New Soft Blacks	3.00	@	3.25
Blue Overall	4.25	@	4.50
Fancy	2.50	@	2.75
Washables	1.75	@	2.00
Mixed Khaki Cuttings	3.00	@	3.25
O. D. Khaki Cuttings	3.75	@	4.00
Men's Corduroy	1.50	@	1.75
New Mixed Blacks	2.50	@	2.75

Old Rags

White, No. 1—			
Repacked	3.00	@	3.50
Miscellaneous	2.75	@	3.25
White, No. 2—			
Repacked	1.75	@	2.25
Miscellaneous	1.50	@	1.75
Thirds and Blues—			
Repacked	1.50	@	1.75
Miscellaneous	1.25	@	1.50
Black Stockings	2.50	@	3.00
Roofing Rags—			
No. 1	1.55	@	1.60
No. 2	1.30	@	1.35
No. 3	.95	@	1.00
No. 4	.95	@	1.00
No. 5A	.90	@	1.00

Foreign Rags

New Rags

New Dark Cuttings	1.75	@	1.85
New Mixed Cuttings	1.80	@	1.90
New Light Silesias	3.75	@	4.00
Light Flannelettes	3.75	@	4.00
Unbleached Cuttings	6.50	@	6.75
New White Cuttings	6.50	@	6.75
New Light Oxfords	3.25	@	3.50
New Light Prints	2.75	@	3.00

Old Rags

No. 1 White Linens	7.50	@	8.00
No. 2 White Linens	6.50	@	7.00
No. 3 White Linens	4.50	@	5.00
No. 4 White Linens	2.25	@	2.50
No. 1 White Cotton	4.25	@	4.75
No. 2 White Cotton	3.25	@	3.75
No. 3 White Cotton	2.50	@	2.75
No. 4 White Cotton	1.90	@	2.15
Extra Light Prints	2.00	@	2.25
Ord. Light Prints	1.75	@	1.85
Med. Light Prints	1.55	@	1.65
Dutch Blue Cottons	1.75	@	1.85
French Blue Linens	2.30	@	2.40
German Blue Linens	2.15	@	2.25
German Blue Cottons	1.70	@	1.80
Checks and Blues	1.30	@	1.40
Linsey Garments	1.95	@	2.05
Dark Cottons	1.50	@	1.60
Old Shopperies	1.00	@	1.05
New Shopperies	.95	@	1.05
French Blues	1.70	@	1.80

Old Rope and Bagging

(Prices to Mill f. o. b. N. Y.)

Gunny No. 1—			
Foreign	1.70	@	1.80
Domestic	1.50	@	1.60
Wool Tares, light	1.65	@	1.70
Wool Tares, heavy	1.75	@	1.80
Bright Bagging	1.65	@	1.70
Manila Rope—			
Foreign	1.85	@	2.00
Domestic	1.75	@	2.00
Small Mixed Rope	1.10	@	1.35
New Burlap Cut	2.00	@	2.25
Hessian Jute Threads—			
Foreign	2.60	@	2.75
Domestic	2.80	@	3.00

Old Waste Papers

(F. o. b. New York)

Shavings—			
White Envelope Cuttings	2.45	@	2.55
Ordinary Hard White No. 1	2.10	@	2.15
Hard White No. 2	1.90	@	2.00
Soft White No. 1	1.70	@	1.80
Flat Stock—			
Stitchless	.65	@	.75
Over issue Mag	.65	@	.75
Solid Flat Book	.45	@	.50
Crumpled No. 1	.35	@	.40
Solid Book Ledger	1.50	@	1.65
Ledger Stock	1.00	@	1.10
New B. B. Chips	.30	@	.35
Manilas—			
New Env. Cut	1.70	@	1.80
New Cuttings	1.35	@	1.45
Print	Nominal		
Bogus Wrapper	.40	@	.50
Container	Nominal		
Old Kraft Machine—			
Compressed bales	1.10	@	1.20
News—			
No. 1 White News	1.20	@	1.30
Strictly Overissue	.60	@	.65
Strictly Folded	.30	@	.32½
No. 1 Mixed Paper	.25	@	.27½

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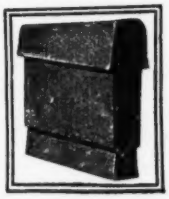

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SVANÖ AKTIEBOLAG
Svanö, Sweden

Twines
(F. o. b. Mill)

Coarse Polished—			
India	.11¼	@	.13¼
Belg. White Hemp	.12¼	@	.15¼
India Compress	.11¾	@	.12¾
Fine Polished—			
Fine India	.19	@	.21
Special	.17	@	.19
B. C.	.25½	@	.27½
Unpolished—			
Box	.10	@	.10½
Paper Makers	.07	@	.12
Tube Rope	.08	@	.13½
Wall Paper	.09	@	.12½
Wrapping	.13	@	.18
Special	.13	@	—
Soft Fiber Rope	.10¼	@	.10¾

CHICAGO

Paper
(F. o. b. Mill)

Rag Bond	.12	@	.50
Water Marked Sulphite Bond	.06¼	@	.11
Sulphite Bond	.05½	@	.11
Superfine Writing	.18	@	.24
No. 1 M. F. Book	.06½	@	.07¼
No. 2 M. F. Book	.05¼	@	.06¼
No. 1 S.&S.C. Book	.06¼	@	.07¼
No. 2 S.&S.C. Book	.05¼	@	.06½
Coated Book	.07	@	.12
Coated Label	.07	@	.08½
No. 1 Manila	.04¼	@	.05¼
No. 1 Fibre	.04¼	@	.05¼
No. 2 Manila	.04¼	@	.04¾
Butcher's Manila	.03¼	@	.03¾
No. 1 Kraft	4.75	@	5.00
Southern Kraft	3.88	@	4.25
No. 2 Kraft	3.88	@	4.25
Wood Tag Boards	.04¼	@	.06¼
Sulphite Screenings	.03	@	.03¼
Manila Tissue	.05¾	@	.07
White Tissue	.07	@	.09

(Delivered Central Territory)

News, per ton—			
Rolls, contract	41.00	@	—
Sheets, open	46.00	@	48.50
Boards, per ton—			
Plain Chip	46.50	@	—
Sold News	50.00	@	—
Manila Lined Chip	55.00	@	—
Patent Coated	65.00	@	—
Container Lined—			
85 Test, per 1000 sq. ft.			1.70
100 Test, per 1000 sq. ft.			1.85

Old Papers
(F. o. b. Chicago)

Shavings—			
No. 1 White Envelope Cuttings	1.70	@	2.00
No. 1 Hard White	1.40	@	1.65
No. 1 Soft White	1.25	@	1.50
Ledger & Writings	.70	@	.80
Solid Books	.60	@	.70
Blanks	1.00	@	1.05
Krafts	.80	@	.90
New Kraft Cuts	1.20	@	1.30
Manila Env. Cuts	1.25	@	1.30
Ex. No. 1 Manila	.90	@	1.00
Print Manila	.40	@	.50
Overissue News	.40	@	.45
Old Newspapers—			
No. 1	.30	@	.35
No. 1 Mixed Paper	.25	@	.30
Roofing Stocks—			
No. 1	30.00	@	—
No. 2	28.00	@	—

PHILADELPHIA

Paper
(Delivered Philadelphia)

Bonds	.05-9/10	@	.38
Ledgers	.06-9/10	@	.40
Writings—			
Fine No. 3	.05	@	.06
Superfine	.10	@	.12
Extra Fine	.15	@	.26
Fine	.15	@	.26
Fine, No. 2	.10	@	.25
Book, M. F.	.05¼	@	.06¼
Book, S. S. & C.	.05½	@	.07½
Book, Coated	.06½	@	.09
Coated Lithograph	.06¾	@	.08½
Label	.07	@	.11
No. 1 Jute Manila	6.25	@	—
Manila Sul., No. 1	5.25	@	—
Manila No. 2	3.75	@	—
No. 1 Kraft	5.00	@	—
Southern Kraft	4.75	@	—
Common Bogus	.03	@	—
News Print Rolls	40.00	@	—
Straw Board	40.00	@	45.00
News Board	40.00	@	—
Chip Board	37.50	@	—
Wood Pulp Board	70.00	@	85.00
Binder Boards—			
No. 1, per ton	75.00	@	80.00
No. 2, per ton	70.00	@	75.00
Carload lots	65.00	@	70.00
Tarred Felts—			
Regular	52.25	@	54.25
Slaters (per roll)	.84	@	.94
Best Tarred, 1-ply (per roll)	1.95	@	2.10
Best Tarred, 2-ply (per roll)	1.40	@	1.75
Best Tarred, 3 ply	2.00	@	2.25

Domestic Rags (New)
(Price to Mill, f. o. b. Phila.)

Shirt Cuttings—			
New White, No. 1	.03½	@	.04
New White, No. 2	.02½	@	.04
Light Silesias	.02½	@	.03
Silesias, No. 1	.03	@	.03½
Black Silesias, soft	.02½	@	.03
New Unbleached	.05	@	.05½
Washable, No. 1	.01½	@	.02
Blue Overall	.03½	@	.04
Cottons—According to grades—			
Washable, No. 2	.02½	@	.03
New Blue	.01½	@	.03
Fancy	.01½	@	.03
New Black Soft	.02	@	.04
New Light Seconds	.01½	@	.02
New Dark Seconds	1.50	@	1.75
Khaki Cuttings—			
No. 1 O. D.	.03	@	.04
No. 2 Mixed	.03	@	.04
Corduroy	.02	@	.03
New Canvas	.03½	@	.04½
New Black Mixed	.02½	@	.03½

Domestic Rags (Old)

White No. 1—			
Repacked	2.50	@	3.50
Miscellaneous	1.75	@	2.25
M. G.	3.00	@	3.75
Thirds and Blues—			
Miscellaneous	1.00	@	1.50
Repacked	1.50	@	2.00
Black Stockings (Export)	2.00	@	3.50
Roofing Stock—			
Foreign No. 1	.50	@	.75
Repacked	.70	@	.85

Bagging
(F. o. b. Phila.)

Gunny, No. 1—			
Foreign	1.25	@	1.50
Domestic	1.50	@	1.75
Manila Rope	2.00	@	2.25
Sisal Rope	1.25	@	1.50
Mixed Rope	1.00	@	1.10
Scrap Burlaps—			
No. 1	1.25	@	1.50
No. 2	.80	@	1.00
Wool Tares, heavy	2.75	@	—
Mixed Strings	1.15	@	1.25
No. 1 New Light Burlap	2.25	@	2.50
New Burlap Cuttings	2.00	@	2.25

Old Papers
(F. o. b. Phila.)

Shavings—			
No. 1 Hard White	2.25	@	2.30
No. 2 Hard White	1.90	@	2.00
No. 1 Soft White	1.80	@	1.85
No. 2 Soft White	1.25	@	1.30
No. 1 Mixed	—	@	.75
Solid Ledger Stock	1.50	@	1.60
Writing Paper	1.00	@	1.10
No. 1 Books, heavy	.55	@	.60
No. 1 New Manila	1.35	@	1.40
Print Manila	.50	@	.60
Container Manila	.45	@	.50
Old Kraft	1.00	@	—
No. 1 Mixed Paper	.25	@	.30
Straw Board Chip	.30	@	—
Binders Board Chip	.30	@	—
Corrugated Board	.50	@	—
Overissue News	.50	@	—
Old Newspapers	.30	@	—

BOSTON

Paper
(F. o. b. Mill)

Ledgers—			
Sulphite	.06	@	.12½
Rag Content	.12	@	.30
All Rag	.36	@	.52½
Bonds—			
Sulphite	.07¼	@	.11
Rag Content	.12	@	.30
All Rag	.36	@	.65
Writings	.06½	@	.20
Superfines	.11	@	.31
Book, Super	.06	@	.09
Book, M. F.	.05½	@	.08½
Book, Coated	.08½	@	.18
Coated Litho	.09	@	.12
Label	.09½	@	.15
Jute Manila No. 1	.11	@	.13
Manila, Sul. No. 1	.04¾	@	.06¼
Manila, Sul. No. 2	.03¾	@	.04½
No. 1 Kraft	.04¾	@	.05
No. 2 Kraft	.04½	@	.04¾

(F. o. b. Boston)

Southern Kraft	.03¾	@	.04¼

(F. o. b. destination in carload lots, f. o. b. mill in less than carload lots)

Common Bogus	.02	@	.02¼

(Delivered New England points)

News Print Rolls	39.50	@	—
Straw Board, rolls	.009	—	@35.00
Straw Board in Sheets, basis 35s to 70s	—		@40.00
Filled News Board	40.00		@45.00
Chip Board	37.50		@40.00
Chip Board (Creasing)	37.50		@40.00
Single Manila Lined Chip	47.50		@52.50
Single White, Patent Coated News Board (Bender)	55.00		@65.00
Wood Pulp Board	70.00		@75.00
Binder Boards (Standard Grade)	67.00		@75.00

Old Papers
(F. o. b. Boston)

Shavings—			
No. 1 Hard White	2.00	@	2.20
No. 1 Soft White	1.75	@	1.90
No. 2 Mixed	.75	@	.80
Solid Ledger Books	1.40	@	1.50
Overissue Ledger Stock	1.15	@	1.30
Mixed Ledgers	.85	@	.90
No. 1 Books, heavy	.55	@	.65
No. 1 Books, light	.50	@	.60
Crumpled Stitchless Book Stock	.50	@	.60
Manila Env. Cuttings	1.30	@	1.40
No. 1 Old Manila	.60	@	.65
White Blank News	1.15	@	1.20
No. 1 Kraft	1.00	@	1.65
Mixed Papers	.22½	@	.25
Print Manila	.40	@	.45
Container Manilas	.27½	@	—
Old Newspapers	.27½	@	—
Overissue News	—	@	.35
Box Board Chips	—	@	.25
Corrugated Boxes	.35	@	.37½
Screening Wrappers	.40	@	.45

Bagging
(F. o. b. Boston)

Manila Rope—			
Foreign	1.80	@	1.90
Domestic	1.50	@	1.75
Transmission Rope	.90	@	1.00
Jute Rope	1.50	@	1.60
Jute Carpet Threads	.65	@	.70
Gunny No. 1—			
Foreign	1.85	@	—
Domestic	1.40	@	1.50
Bleachery Burlap	4.00	@	4.50
Scrap Burlap—			
Foreign	1.75	@	1.85
Domestic	1.60	@	—
Scrap Sisal	1.30	@	1.35
Scrap Sisal for Shredding	1.35	@	1.50
Wool Tares, heavy	1.75	@	1.85
New Burlap Cuttings	1.60	@	1.75
Australian Wool Pouches	2.50	@	2.75
Heavy Baling Bagging	1.75	@	2.00
Paper Mill Bagging	1.25	@	—
Bagging No. 2	.90	@	.95

Domestic Rags (New)
(F. o. b. Boston)

Shirt Cuttings—			
New Light Prints	.01¾	@	.02
New White No. 1	.06	@	.06¼
New White No. 2	.04	@	.04¼
Silesias No. 1	.04½	@	.04½
New Black Silesias	.02½	@	.03
Soft Unbleached	.06½	@	.06¾
Blue Cheviot	—	@	4.65
Fancy	.0195	@	.021
Washable	.0165	@	.0170
Cottons—According to grades—			
Blue Overalls	.04½	@	.04¾
New Black, soft	.04	@	.04¾
Khaki Cuttings	.03½	@	.03¾
O. D. Khaki	.03	@	.03¾
Corduroy	.01¾	@	.02
New Canvas	—	@	.05
B.V.D. Cuttings	—	@	.06¼
Paper Mill Bagging	1.10	@	1.25

Domestic Rags (Old)
(F. o. b. Boston)

Canvas	.04½	@	—
White No. 1—			
Repacked	—	@	2.75
Miscellaneous	2.50	@	2.75
White No. 2—			
Repacked	1.90	@	2.00
Miscellaneous	2.00	@	2.25
Twos and Blues	1.50	@	2.00
Thirds and Blues—			
Repacked	1.37½	@	1.75
Miscellaneous	1.25	@	1.62½
Black Stockings	2.50	@	3.00
Roofing Stock—			
No. 1	1.40	@	1.50
No. 2	1.15	@	1.20
No. 3	.95	@	1.05

Foreign Rags
(F. o. b. Boston)

Dark Cottons	1.50	@	1.55
New White Shirt Cuttings	5.50	@	6.00
Dutch Blues	2.25	@	2.50
New Checks & Blues	2.50	@	3.00
Old Fustians	1.90	@	—
Old Linsey Garments	1.10	@	—
New Silesias	4.75	@	—

TORONTO

Paper
(F. o. b. Mill)

Bond—			
No. 1 Sulphite	.11	@	—
No. 2 Sulphite	.08½	@	—
No. 1 Colored	.12	@	—
No. 2 Colored	.09	@	—
Ledgers (sulphite)—			
Ledgers, No. 1	.34½	@	—
Ledgers, No. 2	.25½	@	—
Writing	.09	@	.09½
Book—			
No. 1 M. F. (Carloads)	6.50	@	—
No. 2 M. F. (Carloads)	6.00	@	—
No. 3 M. F. (Carloads)	5.50	@	—
No. 1 S. C. (Carloads)	7.00	@	—
No. 2 S. C. (Carloads)	6.50	@	—
No. 3 S. C. (Carloads)	5.20	@	—
No. 1 Coated and Litho	12.00	@	—
No. 2 Coated and Litho	10.50	@	—
No. 3 Coated and Litho	9.50	@	—
Coated tinted	13.00	@	—
Wrapping—delivered—			
Rag Brown	4.75	@	—
White Wrap	3.50	@	—
"B" Manila	5.25	@	—
No. 1 Manila	5.40	@	—
Fiber	5.40	@	—
Kraft, M. F.	5.90	@	—
Kraft, No. 2	5.40	@	—

(F. o. b. Cars Toronto)

News, per ton—			
Rolls (contract)	39.50	@	—
Sheets	44.50	@	—

Pulp

Ground wood	27.00	@	—
Unbleached Sulphite	42.00	@	—
Book (Class 1)	58.00	@	—
Writing (Class 2)	59.00	@	—
Select (Class 3)	60.00	@	—

Old Waste Paper
(In carload lots, f. o. b. Toronto)

Shavings—			
White Env. Cut	2.00	@	2.30
Soft White	1.60	@	1.90
White Blk. News	1.25	@	1.40
Book and Ledger—			
Flat Magazine and Book Stock (old)	.90	@	1.00
Light and Crumpled Book Stock	.80	@	.90
Ledgers and Writings	1.00	@	1.05
Manilas—			
New Manila Cut	1.25	@	1.40
Printed Manilas	.50	@	.60
Kraft	1.00	@	1.60
News and Scrap—			
Strictly Overissue	.60	@	—
Strictly Folded	.50	@	—
No. 1 Mixed Paper	.40	@	—

Domestic Rags
(Price to mills, f. o. b. Toronto)

No. 1 White Shirt Cuttings	.06	@	—
Fancy Shirt Cuttings	.02	@	—

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PAPER TRADE JOURNAL

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SIXTY-FOURTH YEAR

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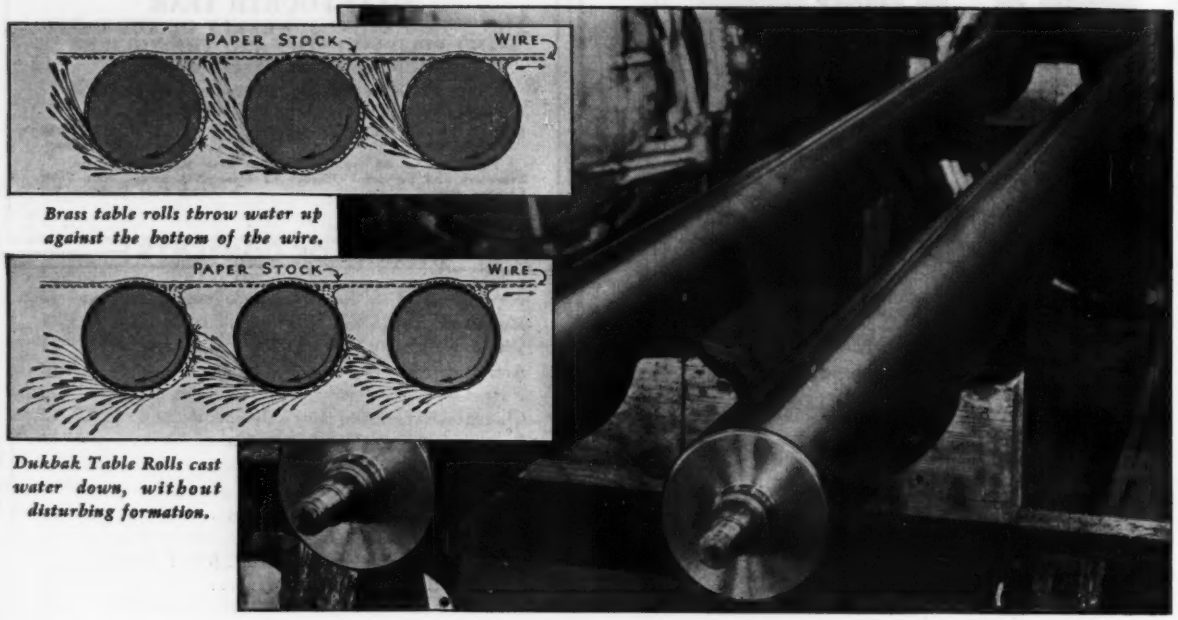
Want and For Sale Advertisements, 54-55

If better paper interests you so will **Goodrich Dukbak Rolls**



Brass table rolls throw water up against the bottom of the wire.

Dukbak Table Rolls cast water down, without disturbing formation.

IT'S the amount of *salable* paper that comes off the end of your Fourdrinier that determines the profit of your operation. Goodrich Dukbak Table Rolls increase effective production by eliminating waste. Here's how:

1—Better formation. Goodrich Rolls have a low affinity for water—they carry water down and away, *not* up against the bottom of the wire to spot the sheet.

2—More uniform sheet. Goodrich Rolls are ground straight and true and stay that way because they are so light they move at the same speed as the wire and so do not wear unevenly. Therefore they do not develop high or low spots — they keep the wire absolutely level, which produces a smooth, even, uniform sheet.

There are many other advantages of Goodrich Dukbak Rolls—sealed ends to prevent corrosion, special rubber cover that permits straightening of the roll if bent by dropping, usable rubber all the way to the steel core which assures far longer life — and many more. These rolls reduce maintenance expense in every mill using them. But their chief feature to every true paper mill executive is the better paper they produce. On that score alone they pay for themselves many times over. Let us prove it. The B. F. Goodrich Company, Mechanical Rubber Goods Division, Akron, Ohio.

ROLL COVERINGS — BELTING — HOSE — MISCELLANEOUS RUBBER PRODUCTS

Goodrich ALL *products problems* IN RUBBER

DUKBAK *Rubber Table Rolls*